
ARTISS SYMPOSIUM 2015

Current Concepts in Psychosomatic Medicine

SPONSORED BY

Department of Psychiatry, Walter Reed National Military Medical Center

National Intrepid Center of Excellence

Center for the Study of Traumatic Stress

Department of Psychiatry, Uniformed Services University



ARTISS SYMPOSIUM 2015

Current Concepts in Psychosomatic Medicine

SPONSORED BY

Department of Psychiatry, Walter Reed National Military Medical Center

National Intrepid Center of Excellence
Sleep Laboratory Department

Center for the Study of Traumatic Stress
Department of Psychiatry, Uniformed Services University



From the Conference Series:

ARTISS SYMPOSIUM

Current Concepts in Psychosomatic Medicine

Editor's Note: This transcript has been edited, however, as in most transcripts some errors may have been missed. The editors are responsible for any errors of content or editing that remain.

IPD 2016 by Center for the Study of Traumatic Stress
Department of Psychiatry
Uniformed Services University
4301 Jones Bridge Road
Bethesda, MD 20814-4799

First Edition



Mary Lee Dichtel, RN
Senior Medical Editor
Educational Support Management Services, LLC
mlbd.esms@gmail.com

The Editor would like to thank K. Nikki Benevides, MA, Center for the Study of Traumatic Stress, Department of Psychiatry, USU for her editorial assistance.

Contents

List of Speakers.....	i
Welcome.....	7
<i>Brett J. Schneider, MD and Russell B. Carr, MD</i>	
Introduction to Concepts in Psychosomatic Medicine.....	9
<i>Harold J. Wain, PhD</i>	
Psychosomatic Medicine: Paradigms and Populations.....	15
<i>Thomas N. Wise, MD</i>	
The Social Brain in the Ordered and Disordered Minds.....	25
<i>Alex Martin, PhD</i>	
Ethical Concerns in Patients with Complex Medical Surgical and other Unexplained Medical Issues	33
<i>Edmund G. Howe, III, MD, JD</i>	
Essentials for the Psychiatrist Working with Transgender Patients	43
<i>Jack Pula, MD</i>	
Psychiatric Concerns in Evaluating Low Back Pain.....	55
<i>David E. Gwinn, MD</i>	
Critical Role of Psychiatric Evaluation and Support in Orthopaedic Trauma and Amputee Care.....	61
<i>Benjamin Potter, MD</i>	
WRNMMC Complex Spine Program: A Multidisciplinary Approach to the Surgical Patient.....	67
<i>Christopher J. Neal, MD</i>	
The Neurobiology and Emerging Therapeutics for Functioning (Conversion) Neurological Symptoms.....	73
<i>James L. Griffith, MD</i>	
Speaker Biographies.....	83

History of the Artiss Symposium

Kenneth L. Artiss (1913–2001), the namesake of this symposium, was an Army officer, a research psychiatrist and instructor at Walter Reed Army Medical Center. Dr. Artiss, who served for 21 years in the Army Medical Corps retired in 1964 as a Lieutenant Colonel. He was Chief of the Department of Psychiatry in the Division of Neuropsychiatry at Walter Reed's Institute of Research. His work included development of treatment methods for combatants with severe psychiatric disorders.

After his retirement from the Army, Dr. Artiss was a senior consultant for many years to Walter Reed's psychiatric residency training program. Dr. Artiss created an award in 1983 to spur military psychiatry residents to conduct high quality research. This award still exists today and was presented at the conclusion of this symposium.

Speakers

Russell B. Carr, MD

CDR, MC, USN

Chief, Department of Psychiatry

Walter Reed National Military Medical Center

James L. Griffith, MD

Chairman, Department of Psychiatry and Human Behavior

The George Washington University School of Medicine

and Health Sciences

David E. Gwinn, MD

CDR, MC, USN

Chief, Department of Orthopaedic Surgery

Walter Reed National Military Medical Center

Edmund G. Howe, III, MD, JD

Professor, Department of Psychiatry

Uniformed Services University

Alex Martin, PhD

Chief, Section on Cognitive Neuropsychology

National Institute of Mental Health

Christopher J. Neal, MD

CDR, MC, USN

Department of Neurosurgery

Walter Reed National Military Medical Center

Benjamin Potter, MD

LTC, MC, USA

Vice Chair, Orthopaedic Surgery

Walter Reed National Military Medical Center

Continued

Jack Pula, MD
Instructor, Clinical Psychiatry
Columbia University

Brett J. Schneider, MD
COL, MC, USA
Director for Behavioral Health
Walter Reed National Military Medical Center

Harold J. Wain, PhD
Chief, Psychiatry Consultation Liaison Service
Walter Reed National Military Medical Center

Thomas N. Wise, MD
Director of Behavioral Health
Inova Medical Group

2015 Conference Organizing Committee

Harold J. Wain, PhD, *Chairman*
Russell B. Carr, MD
Shannon Ford, MD
John Magera, MD
Michael Mrizek, MD
Patcho Santiago, MD
Robert J. Ursano, MD
Joseph Wise, MD
Mary Lee Dichtel, RN

For their support the committee wishes to thank:

- Ms. Lisa Moore
- Mr. Vernon Woods
- Staff at NICoE
- Our clinicians and support teams for providing the best care to our wounded warriors and their families.
- The Command at WRNMMC for providing a climate where we are allowed the space and creative license to think about complex issues.
- Dr. Robert Ursano for his support and encouragement to document this important symposium.
- All the patients who continue to inspire and teach us.

Welcome

Brett J. Schneider, MD and Russell B. Carr, MD

DR. SCHNEIDER: The first Artiss Symposium was held in 2003 at the old Walter Reed location in Washington, DC. It began with a combat and military theme and people returning from the wars in Iraq and Afghanistan gave talks about their experiences. When we moved to the new Walter Reed National Military Medical Center (WRNMMC), the Artiss Symposium changed its focus to include broader topics. We are grateful for the work Dr. Wain has done to make sure the Artiss Symposium continues each year.

One of our guest speakers mentioned to me the impact that Dr. Ken Artiss had on him, how well-known he was in the area, and how dedicated Dr. Artiss was to educating physicians who provided wonderful care to patients.

If General Clark were here, I know he would ask you to consider how your time spent in this room today ultimately will contribute to your patients' experiences. How will you take what you learn today and put the patient in the center, and how will you use what you learn to help your patients? If you can identify that, then the time you spend at this symposium will be time well spent. We are glad that we are able to offer you this opportunity. I hope you enjoy the day.

DR. CARR: Dr. Artiss was at Walter Reed for more than 20 years and during that time he was very involved in teaching. His legacy is still felt, and I think it is important that we have continued to honor him. In 1983, Dr. Artiss began giving an award to residents for research activity that was ahead of its time in terms of engaging residents in research and scholarly activity. It is fitting that the day will end with the annual Artiss Award presented to one of our residents for outstanding scholarly activity.

Introduction to Concepts in Psychosomatic Medicine

Harold J. Wain, PhD

Welcome to *Concepts in Psychosomatic Medicine: The Mind-Body Duality*. Over the centuries, the interaction between mind and body and how it responds to both the somatic symptoms and the emotional symptoms that one develops has become very important for us to understand. Psychosomatic medicine has evolved from the time of Hippocrates and Galenic traditions where diseases were described along with religious and ideological aspects. There was also recognition of the role that emotions contribute to the genesis of physical disorders and Hippocrates showed that adaptive factors were important in health and diseases. Socrates said that when he came back from a battle his body could not be cured without concern for the mind. Galen, in the years before Christ, understood the concept of adaptive biology in which diseases would create a disturbance in the natural harmony of the body, especially the humors.

Other noted physicians throughout the years recognized the impact of mind and body, and body and mind, because they go hand in hand. Too often we think about how the mind affects the body, but the body also affects how we respond. Carl Carus, in the 19th century, postulated the impact of the unconscious mind and how it animates with all physiological processes. I always thought it was Sigmund Freud, but it was Carus who first talked about the unconscious mind. Freud, in his discussion of the unconscious, established a fundamental dynamic principle of psychological causality. Ivan Pavlov's exploration of conditioned reflex provided a tool for the introduction of stress and for the measurement of emotional correlates of physical stress. He postulated that even the most complex higher cerebral processes were elaborations of simple conditioned reflexes.

Walter Cannon suggested that emotions were energizers, and that situations evoking fear and rage could provoke important changes in body fight or flight responses. We tend to forget about Freud, Pavlov, and Cannon's impact on us. Think about Pavlov when studying non-epileptiform seizures.

Five years down the road about 30% turn into true seizures. Could it be that epilepsy is a conditioned response that changes the physiology of the brain? I posed that question to one of our neurologists and it has not been answered for me.

Helen Dunbar, who studied large numbers of patients with organic disease, noted marked similarities in personality profiles as though they were suffering from the same disorder. Dunbar described the ulcer personality, the coronary personality, and the arthritic personality, among others. I was engaged with these concepts in my own training, and I kept looking for different personality styles.

Franz Alexander emphasized the relevance of psychodynamic conflict rather than personality profile. Alexander postulated that there were three variables in operation: inherited or acquired organ system vulnerability, psychological patterns of conflict, and defense. The latter is formed early in life corresponding to precipitating life situations which are operative in the etiology of psychosomatic disorders. George Engel and Arthur Schmale described inappropriate grieving following object loss as a precipitant of psychosomatic disorders. Psychoanalysts and psychophysicists contributed to the growth of this field. The first major approach intended to identify specific psychological variables underlying specific somatic disorders. The second approach involved experimental epidemiological studies to discover correlations between social stimulus situations, subjects' responses to them, and changes in physiological functioning.

The historical impact of Franz Mesmer is also interesting. Look at the mind-body interaction, look at the impact that James Esdaile, a Scottish surgeon, had in his description of mesmerism in India. Why are patients able to tolerate surgery without an anesthetic? What are the variables that contribute to one's ability to anesthetize the body? Does this occur with pathology, not just in hygiology, and does it also occur with psychopathology? Tom Hackett, from Harvard University, was fluent in his use of hypnosis and psychotropics. David Spiegel, a colleague at Stanford, has done wonderful work using hypnosis. He looks at it clinically, as contemporary or integrative medicine. At Walter Reed, we have used hypnosis in consultation liaison psychiatry. I have written several chapters on hypnosis and most of my writing described hypnosis for anesthesia for surgery. Why does it work? Was Pavlov right? Is there cortical inhibition, and how does that occur? How do the mind and the body interact to allow this to occur? All cases demonstrated the significance of hypnosis in psychosomatic medicine where the mind affects the body. Some of the patients we have had recently refer back to classic cases that Dunbar and Alexander described.

What about gastrointestinal (GI) function? We have a GI clinic where we use both traditional psychotherapy and hypnotic techniques to control some

GI functioning. What about respiratory conditions? Most of you know that one of the classic cases that Dunbar described as a psychosomatic disorder was asthma. What we see now is a great deal of vocal cord dyskinesia. Is that really the offshoot of what others were diagnosing at one time, before we had the instrumentation to evaluate it? How is the mind able to control the respiratory phenomena by use of a variety of techniques?

What about neurodermatitis? Drs. Hackett and Gottlieb, dermatologists at Harvard, removed warts on half the body but not the other half. How? Why does this occur? Why do some of these things work? How do we sometimes use suggestibility to ablate warts? What about adult encopresis? Why do people have encopresis and what occurs with it? What are the dynamic interpretations of encopresis, and what techniques do you want to use to help patients control their bowels? What about non-epileptiform seizures, movement disorders, hyperemesis gravidarum, nausea following chemotherapy, gastric reflux, and hypertension? These are just a few of the cases where you can see how the mind can affect the body.

More recently, Henry Christian defined psychosomatic medicine as concerned with an appraisal of both the emotional and the physical mechanism involved in disease development. The editors of the first journal of psychosomatic medicine defined it as a study of interrelation of the psychological and physiological aspects of all normal and abnormal bodily functions, with an attempt to integrate somatic therapy with psychotherapy.

I consider Zbigniew Lipowski the grandfather of consultation liaison (CL) psychiatry. He defined CL in this way: the scientific study of the relationship among psychological, biological, and social factors in determining health and disease. This holistic approach to medicine, Lipowski thinks, should be done through consultation liaison psychiatry.

In 1935, the Rockefeller Institute funded the first psychosomatic clinics at Duke, Colorado, and Massachusetts General Hospital. The American Psychosomatic Society (APS) was founded in 1935, and the Academy of Psychosomatic Medicine (APM) was founded in 1954. The psychosomatic fellowship received its final approval by APM in 2003. Prior to that, the APS recognized the consultation liaison psychiatry fellowship.

How do we manage patients with comorbid psychiatric and general medical conditions complicating the management of both disorders? What do we do if a patient is bipolar and is experiencing depression and anxiety complicated by other conditions? How do you manage these patients on the ward? How do you manage these patients when they have a medical condition and are scheduled for surgery? How do you approach and manage patients with somatoform and functional disorders, conversion, somatic symptoms, dissociation, and body integrity identification disorder (BIID)? One of our orthopaedic surgeons will talk to you about some of these vari-

ants because CL is often asked to screen patients prior to potential surgery. Often we are asked to assess patients who want amputation of healthy limbs. This scenario is more frequent than we recognize for people with psychiatric disorders that are a direct result of a primary medical condition or of their treatment for delirium, dementia, etc.

How do you initiate treatment? You must listen to patients; you must listen to the medical staff who are treating the patients. Many times we do not listen. You must be flexible. You cannot approach a patient without flexibility, especially a patient with a complex biopsychosocial presentation. The key is an empathic approach. If you look at the studies in psychotherapy, empathy accounts for about 80% of the variance in psychotherapy. We accept the patient's description rather than telling them they are wrong. Recognize the impact that the mind has on the body and the body has on the mind. Try to develop individualized strategies. We stress the concept of a therapeutic alliance. How do you develop a therapeutic alliance and maintain it? The literature tells us to meet the patient where they are and not have them meet us where we are. In the latter case, we lose and patients lose. The therapeutic alliance can go a long way in helping solve the puzzle to give our patients the homeostasis they need.

I have several questions. To what degree was Pavlov correct? To what degree was Cannon correct? To what degree were Freud, Dunbar, and Alexander correct? What about the aspects of the pharmacological approach? Is that correct? What role do the limbic system, the amygdala, the hippocampus, and the frontal cortex play in this discussion? What are we missing in understanding and helping another person return to homeostasis?

There is a stigma associated with psychosomatic medicine, whether you recognize it or not. I voted against the name "psychosomatic medicine fellowship" because of the stigma. My preference was somatopsychic rather than psychosomatic because as soon as you say psychosomatic people suggest it is a somatoform spectrum disorder or an unexplained medical symptom.

When you are dealing with a biopsychosocially complex patient, especially in the hospital, you must remember your patients are not the only patient. Your patients are other providers who take care of that patient; the nurses, the entire staff on the ward, some patients on the floor, as well as your bosses and the command, especially here at Walter Reed. We recently had a patient in the ER who had a service dog. How do you handle the logistics of admitting a patient to an in-service unit who has a service dog? These are issues you have to deal with. These issues go all the way up the chain of command. How do you put all this together? Dealing with these types of questions is what makes the area of psychosomatic medicine so stimulating and electrifying. It forces us to integrate data from a variety of sources. It makes you

think, and it requires all of us to think holistically about another individual. Solving the puzzle of some of these complex biopsychosocial cases can be stimulating and can help prevent burnout.

The process is very interesting. For example, every Wednesday morning, I, along with two fellows, attend the medicine clinic supervising the staff and some of the residents on their morning cases. We do not see the patients. We talk about each case and help them understand each patient. Residents and staff are now doing exactly what Lipowski talked about. We are teaching residents how to talk to patients. They are asking the right questions, they are listening, and they are responding effectively, and integrating the data gathered. Lipowski would be proud of everyone who is following that dictate. With this approach you are likely to have a very exciting day.

Today's speakers are also stimulating and exciting. They are experts in their areas. They can help us integrate our knowledge from a biopsychosocial perspective because, as George Engel once taught us, you need to evaluate your patients from a biopsychosocial approach.

Psychosomatic Medicine: Paradigms and Populations

Thomas N. Wise, MD

Dr. Wain emphasized the role of curiosity, which is so important in what we do. We have to cope with the trajectory of psychosomatic medicine. A group of us from the Academy of Psychosomatic Medicine have been working to get consultation liaison psychiatry accredited as a sub-specialty of psychiatry. The American Psychiatric Association (APA) did not like the term consultation liaison because they argued that all doctors do consultations. We went back and forth for a number of years about lobbying the APA and obtaining support from a broad group. The name was a problem. Finally someone said, "What about psychosomatic?" The board of the APA said, "Yes, that's fine," so we took it. The rest is history.

What is interesting is that we still ask what psychosomatic is. Psychosomatic was first defined in 1836 by Heinrich, a German pre-psychiatrist. In English, psychosomatic was first talked about by Isaiah Gray, who was an editor of the *American Journal of Psychiatry* in 1860. These are trivia questions for psychosomatics, but 150 years later we are still talking about what it is. It is fairly interesting to me but also problematic. Dr. Wain talked about Zbigniew Lipowski who spent some of the happiest hours of his life at the National Library of Medicine. Everyone in this room should read Dr. Lipowski's classic papers. He was the greatest scholar in psychosomatic medicine and I do not think we have anyone to replace him.

What do we do in psychosomatics? It is a research strategy. It is part of the mission of the American Psychosomatic Society that Dr. Wain mentioned. The answer is that we consider behavioral and psychological issues as variables. It is not done often in biomedical research. We will discuss the result of that problem using George Engel's biopsychosocial model. It is a clinical approach. It sounds good, but, due to limited time and limited numbers of doctors and other health providers, it is not done in most parts of the United States or Canada.

Consultation psychiatry is the clinical derivative of psychosomatic medicine. Some people do not like to hear this. It is not universally accepted in groups who see psychosomatics as what every psychiatrist should be doing. I agree with that, but it is not always realistic. There are several basic assumptions about why we focus on population health. There are a limited number of mental health professionals — whether they are psychiatrists, psychologists, or counselors. Primary care physicians have limited time. It is unrealistic to think that primary care physicians can spend a great deal of time with their patients. On the other hand, if you see a patient regularly, over time you will be able to quickly recognize changes in their mood and their behavior.

Our new models include many groups of doctors that do not know their patients well. It is an important issue. Psychiatric co-morbidity increases cost. There are psychosocial and behavioral issues that globally cause and maintain disease such as low socioeconomic strata, poor diet, tobacco, alcohol abuse, and lack of exercise. All of these things create an undercurrent and suggest the importance of behavior, which can be driven by psychosocial issues in health. Health is a global construct. Dr. Wain beautifully described the clinical paradigms in psychosomatic medicine. To an extent, the ancient thinkers, whether it was Hippocrates or Galen, spoke in a much more global way. It was only when we got to Sigmund Freud and some of his colleagues, like Franz Alexander, that there was much more linear thinking. Helen Dunbar, who was very important, emphasized personality. However, the fact is that none of her data really worked out. Dunbar was a dramatic character and she wrote a book that you can still buy in used bookstores. Dunbar fostered the early thinking about Type A personality, which we still debate today.

Engel focused on what is called the biopsychosocial model. Engel was an internist. He was also a psychoanalyst who completed his analytic training in Chicago, under Franz Alexander. Engel was amazed during rounds by the fact that people gated out all the psychosocial elements and would talk about molecular biology. Physicians focused on what disease the patient had and why the disease occurred. They focused on the latest articles in the *New England Journal of Medicine* or the *Journal of Clinical Investigation*. Often the result was that no one really knew who the patient was.

You cannot deny the importance of the disease process, but it is also important to know the patient. Arthur Schmale was one of Engel's greatest students and later joined his staff. Dr. Schmale trained at the University of Maryland, and afterwards spent his career at Rochester. Dr. Schmale was one of the kindest and greatest of the psychosomatocists. Those of us who were privileged to know him still miss him. He was the one that had the clinical abilities. Sir William Osler said you have to know the patient and what disease they have, but Schmale embodied that statement. Schmale, who wrote

beautifully, studied the life setting conducive to illness in a series of papers that are not typically read now. When I ask our fellows to read Schmale's papers I know some of them wonder why. I ask because the papers describe the essential aspect of the clinical encounter. Schmale wrote the seminal article that coined the term biopsychosocial. I was a history major in college, and I believe if we do not learn about what occurred in the past, we are doomed to repeat failure.

Roy Grinker first used the word biopsychosocial, but he was talking about the focus on reductionism in biologic psychiatry that I still believe is important. Engel said we need a new model. The biopsychosocial approach incorporates psychosocial aspects into how we think about our patients. It has not been fulfilled today. We thought this was going to be the relief act for consult psychiatry but it did not turn out that way. There are time pressures on clinicians of all specialties. I have heard psychiatrists say it is not their job to talk to patients and do therapy. There are several residency programs that embody that approach. There are some residencies that do a great deal of good research, but that do not necessarily promote psychiatrists talking to patients.

We are now faced with another problem. What was originally called population medicine is now called personalized medicine. Francis Collins, who developed the human genome project, does not like the word personalized medicine. He prefers precision medicine, which, in fact, is much better. We want to be as precise as possible with some of our new, colorful therapies. I use the word colorful because the press thinks this is, perhaps, a new era in treating cancer and some other diseases. Inova Fairfax Hospital, where I work, recently purchased the Exxon Mobil headquarters for close to \$1 billion. We have spent millions of dollars looking at genetics and personalized or precision medicine. Time will tell how this will work, but this approach leads us away from sitting down and talking to the patient and getting to know them.

One of Engel's articles says that we exist in a series of levels from the biosphere to the intracellular organisms. It seems to me that the clinical encounter is in a levels of experience construct, basically psychosocial behavior. I believe it is accurate, but we are also in a digital age and humans exist in it, whether it is Facebook or another form of social media. We all deal with this. In the Middle East combat soldiers have satellite phones. They can call home any day and Skype. This dramatically changes their personal experience of being away from home and dealing with stress. We do not use Skype frequently in the hospital yet, but I suspect in the future we will have this technology in every hospital room. We live in a digital age that we have to come to grips with at some level.

We are changing the game from biopsychosocial perspectives to co-mor-

bid management. Is that a dialectic? One could argue they are not contradictory. I think there is some merit to that. I would advocate for the biopsychosocial model. Change is not easy. To illustrate, here is a story from the *London Times* about Rene Laennec, who developed the stethoscope: “If it ever comes into general use, notwithstanding its value — extremely doubtful, that is, the value — it gives a bit of trouble both to the patient and the practitioner. Its character is foreign, opposed to all our habits and associations. There is something ludicrous, the picture of a grave physician proudly listening through a long tube applied to the patient’s thorax.” Change is complicated. The stethoscope was a foreign, useless object. Now it has come full circle, since the stethoscope, in many ways, is a bearer of bacteria. I do not know if you subscribe to the hand hygiene concept but we are in the midst of a big campaign. Stethoscopes and cell phones are bearers of bacteria.

Today we do so many imaging studies that the wonderful auscultation skills are being lost. We have many new technologies on the horizon. Some are called disruptive technologies, a term often used in the business world. A disruptive technology is one that displaces an established technology and shakes up the industry or a ground-breaking product that creates a completely new industry.

I think many of us would agree that good psychotherapy by a well-trained clinician is useful, and, at times, is the best treatment. Many people would disagree. The data is lacking to show the dosage of psychotherapy. Are three visits a week better than one? If we think of psychotherapy as a drug, which I would argue is a good analogy, we need to know the dosing. The other is behavioral therapy — using hypnosis as an adjunct. All are essential. These are, unfortunately, often looked upon as sustaining services versus disruptive technologies.

HealthSpot is an example of a disruptive technology in medicine. HealthSpot is a company that provides telemedicine or virtual healthcare connecting patients to providers in convenient settings. The patient walks into a kiosk and begins a video that connects them to a health care provider. For example, if you have a cough or think you hear something in your chest, the healthcare provider, via video, will ask you to place a stethoscope on your chest that is amplified back to the central person. HealthSpot has health systems frantic. What will be the effects of this type of health care delivery system?

The University of Pittsburgh is one of the most powerful health systems in the country in terms of financial stability and aggressiveness. Recently they acquired a contract for telemedicine psychotherapy in their health system. It is called Beating the Blues. Beating the Blues has been available for at least a decade. The data shows that, when implemented in collaboration with face-to-face humans, this program has some merit. It certainly is as good as

not using it. The data is less supportive without face-to-face psychotherapy.

We are facing paradigmatic change. Most people cannot afford private psychotherapy and most psychiatrists do not accept insurance in larger cities in the U.S. Generally, this has led to a two-tiered system of access to care and that is a problem. Look at the example of Eastman Kodak. Who would have ever thought that cameras would go down the drain? I am old enough to have owned a Brownie. Then we had little pocket digital cameras that were great and I still carry one of them around on trips. With the iPhone camera continuously getting better, I am less likely to carry the digital camera in my pocket. Kodak, who supported Rochester for centuries, had to re-invent itself. They are not a film company anymore. Who would have imagined that? I suggest that we have to be careful in our own thinking.

Why would telemedicine psychotherapy be accepted? We know that human interaction is really important. Acceptance has to do with the changes in individuals' acceptance of rapid-fire, computerized psychotherapy, and acceptance of computerized telemedicine where strangers diagnose some of your medical problems. Acceptance is a generational change. The individual who best described this phenomenon is Karl Mannheim. Mannheim was a German sociologist in the Frankfurt School, a liberal "thinking out of the box" group that was active in the late 1920s and early 1930s. Fortunately, for the U.S. and Great Britain, we got most of these folks as émigrés before World War II. Mannheim went to London, where he did most of his work. You can still read some of his beautifully written essays on the Internet. In one essay, he said the reasons these changes work, versus eternal romantic views of what works, is because cohorts change. Our current millennials like what is convenient. They are also comfortable with social media technology. The current generation is interested in quality of life. They do not want to come in during the day and wait a long time to see a doctor. They want quick fixes.

What are the psychosomatic paradigms? There are two buzzwords that have become popular recently. The first is co-morbidity. Co-morbidity is a term popularized by Alvin Feinstein in a book called *Clinical Judgment* written in 1967. Feinstein was an epidemiologist and a professor of medicine at Yale University. The second buzzword is population health. The military understands population health. The civilian side, fostered by insurance, is forced to deal with population health.

I suggest that the newest paradigm in psychosomatic medicine is the psychiatry of co-morbidity. There are functional effects of co-morbidity, based on time and detection. Symptoms of multiple sclerosis (MS) are often initially diagnosed as hysteria. We know depression can worsen diabetic control and make the course of that illness worse. You can educate a patient about a healthy diet and the importance of taking prescribed medicines, but

if the patient has either a personality disorder that is low on conscientiousness and they cannot plan well, or is anxious or depressed, he might not do well. If a patient has mild dementia, or bad arthritis and cannot open a blister pack, that is a problem. Post-therapeutic outcomes can all be affected by co-morbidity. Rates of depression are high in the general population, but particularly high in people with medical illnesses.

Consultation liaison psychiatry and psychosomatic medicine are aware of this, but how well have they addressed the issues? We thought we could teach other healthcare providers. If you teach consistently each week then people begin to learn, but in an inpatient unit how effective is this approach? You have to be there to help out. That is the key. There is data showing that lectures to primary care doctors on common outpatient psychiatric issues do not work. For complex cases you must be present to teach. How well did our approach work? If we look at the meta-analyses of success rates we were accurate. For depression, under half. For distress and demoralization, under half. For mild depression, only a third. We do not do well with delirium. It is amazing how little we study delirium. Tom Inui and his folks at Seattle are about the only ones who have done good work with delirium. We certainly have not solved the problem. Is it consultation liaison's fault? No, not necessarily, but perhaps we need better models. We have a long way to go.

Why are we moving out of population health? Our traditional models have not worked as well as we would like. It is a money issue. The cost of depression is fairly impressive with absenteeism from work. Presentism is low productivity at work, which is also costly. As we move forward, worldwide, depression will be one of the leading causes of disability. Money seems to be a driving force, and because of this the focus is now on populations. We are moving from a fee-for-service system, which is based on volume and per person, to a whole population. The shift will be based on how much we spend and how much we can save. Those of you in the military have to deal with this when you make requests for money. It is all based on economics and an outcome. How well are you doing in treating these populations? How accurate are some of the outcome measurements? We need to reduce the costs because things are supposedly becoming too expensive. We use tools for population health, and mental health is part of this. We are tasked with treating the mental health of a broad population with medical co-morbidities and those without who have psychiatric morbidities.

How do we approach this complicated task? We use psychometric screening and electronic health records. What about talking to patients? In most of the models it is not the first thing you consider. We have two tools: the electronic medical record (EMR) and telepsychiatry. At Inova Fairfax, we use a great deal of telepsychiatry and it is surprisingly helpful. Patients seem to accept it but our doctors do not always accept it. Telepsychiatry allows us to

expand services in places that are not accessible to a psychiatrist, psychologist, or social worker. An interesting question is, how well is the new model accepted? There is a good story about Albert Relman, former editor of the *New England Journal of Medicine*. He was a leading light in health change and was convinced that most doctors would accept HMOs and salaried positions. I think he is probably right. Tragically, he fell down and sustained fractures in his cervical vertebrae. He had a tough time in the hospital and developed pneumonia. He was hospitalized at Massachusetts General Hospital and then Spaulding Rehabilitation Hospital.

Relman said, "Attention to Mass's data generated by laboratory and imaging studies has shifted their focus away from the patient. I found only a few brief descriptions of how I felt or looked." Relman, who had never supported the role of biopsychosocial approaches saw this as a real problem and wrote a beautiful article in the *New York Times*. If anyone wants to read the ills of the EMR, read Robert Wachter's book.

One problem is that bad data stays in the record. We cut and paste. While the doctor is talking to the patient, the doctor is typing on a computer and not looking at the patient. How do you capture all the visual information that Charles Darwin talked about? Darwin's early observations on animals and how they looked are probably still accurate today. If you read any good textbook on the medical interview, you will read about talking to a patient, seeing how they sigh, how they look, and when they become tearful. If you are looking at a laptop, you cannot do that.

We recently completed a study looking at 100 inpatients and what they thought about all of the types of technology we use. Everything in our psych unit is computerized. Everything is electronic. We talk to patients but there are ever-present computers. What was dramatic to me was that most patients accept it. They were not worried about confidentiality, which is a constant theme in the literature. We found that if the patient thought the doctor was good, everything else vanished. It has something to do with the doctor-patient relationship, which has always been the case. Transference has always been the case. It is what Ken Artiss tried to teach about the group process. Artiss's work complemented Jerome Frank's work at Johns Hopkins and the role of transference and the socially sanctioned healer. Wearing that white coat, no matter what discipline you are, means a great deal. When you wear a name badge you are somehow involved in the hospital treatment team. Patients accept this, but what are the consequences?

Here is a good example. A 53-year-old woman was transferred to our hospital with a ten-year history of MS. She had worked as a neurologic nurse. She was admitted to Inova, screaming and yelling, completely out of control, and could not walk since she had been mostly bedridden for four or five years. I saw her on rounds and performed a neurologic examination. There

was no evidence she had MS, but the diagnosis was repeated in the EMR at our hospital and in the record from the transferring hospital. One of our fellows carefully reviewed the records. There were absolutely no positive findings that could be confirmed. Confirmed was the operative word. She *supposedly* had an abnormal spinal tap and *supposedly* had an abnormal EEG, but nothing was confirmed. When I spoke to her I said, “Look, we’re going to commit you if you don’t cut it out. You’ve got to come to psychiatry.” She got out of bed, went to the bathroom, came back and said, “Okay.” It turned out that her symptoms were histrionic but the diagnosis was also an EMR failure. The cut and paste was perpetrated for at least five years. This is a problem that occurs repeatedly.

How do we deal with populations? Collaborative care is the newest term. It is also called shared care, integrated care, or coordinated care. The process is integration with primary care based on step models. Stepped care is the method that is used and you screen an entire population. It is organized to deal with large numbers of people in a cost-efficient way. Clinically, it seems to work in certain hospital settings. There are other approaches though.

Roger Kathol is an innovative health strategist in the development of integrated programs and systems for patients with illness complexity. He is a tireless champion of integration between psychiatry and medicine. Kathol is trained in internal medicine and psychiatry. He thinks everyone should be screened, not necessarily by a mental health professional but for levels of complexity of their illness. The entire hospital population is screened and you can intervene when needed. Social Service departments can do this. This approach is not utilized much in the U.S. but in Holland it is utilized a great deal. Another approach incorporates a behavioral integration team. A psychiatric nurse screens all admissions on a unit to determine who might be at high risk, such as people with prior psychiatric disorders and people who seem to have current psychiatric symptoms. Those patients are seen. This approach seems to save money since patients have a shorter length of hospitalization.

What about primary care settings and outpatient settings? The main project is one that never gets cited, but is being funded by the NIH and it is impressive. In Maine there are not many psychiatrists outside of Portland and perhaps Augusta where the state hospital is located. The NIH project co-located social workers, licensed professional counselors, and occasionally a psychologist/psychiatrist with primary care physicians throughout the state. They saw the patients that needed to be seen and they used a shared electronic health record. This is where the electronic record is good because of its portability and its ease of use. By and large, treatment times were short. What were the clinical outcomes? Patients did well on the various metrics that were measured.

What are we doing at Inova? We are using the collaborative care model, working with our 22 primary care clinics that are part of the Inova Health System. We are also using the PHQ-9 to screen every patient. If a patient has moderate to severe depression, we implement more aggressive interventions that are coordinated between the primary care doctor and our mental health group. Soon we will begin to co-locate people in convenient areas. In the DC area distance is not the problem, traffic is, so we are working on whom to place in the various centralized primary care clinics that are located throughout Fairfax County, VA. We will measure outcomes carefully. The key to collaborative care is developing a useful registry that is comprehensive.

Will any of these models work? When I say work I mean, will they improve mental health? Will they modify costs? I am not convinced we know. Can we generalize a model that we use, which is basically owned by all of us, to the private situation? Accountable care organization is a model where healthcare providers from primary care, specialists, hospitals, and large health systems are all collaborating and coordinating care with each other to improve outcomes for their patient populations. Who knows if that will work? What about employee versus contracted doctors? At Inova we have a completely employed model, as does the military. We sign contracts and we have a chain of command, just as the military does. It is probably not as rigorous as the military, but we have a chain of command and I answer to our senior officers. Will this model be different for contracted people that do not feel like they are part of a team? None of us know and we cannot predict the future, but I know it will change.

In conclusion, I encourage you to keep up the curiosity that Dr. Wain talked about. Stay curious about our healthcare models and where we have already been. We have to remember where we have been in order to move forward in a reasonable way.

The Social Brain in the Ordered and Disordered Minds

Alex Martin, PhD

I will discuss the idea of the social brain and why it is important. We have been studying autism in a narrowly defined way with adolescents, however this talk is not about autism. This talk is about taking one clinical group, in this case high-functioning autistic individuals, and considering them a model system. The model is a system for approaching people who have social difficulties in the world, and for studying them to learn what might be wrong with their brain circuitry.

I want to accomplish three things. First, I will define what we mean by the “social brain” as a domain-specific system. Second, I will provide examples of how we probe the brain with functional brain imaging and how we can use different tests to activate the social brain and see how it responds. In the third part of the talk, I will turn to studying different patient populations without any tasks, just having people lie in the MRI magnet. This approach is a fairly recent discovery that shows a slowly fluctuating, spontaneous neural activity that, through different types of analyses, can inform us about brain circuitry and the status of circuitry in different patient populations.

What is the social brain? One argument is that the whole brain is the social brain, which I think can be defended to a certain degree. However, we need to be splitters before we can be lumpers. This is a story that began about 25 years ago with a woman named Leslie Brothers. I am sure few, if any, of you have ever heard of her. She is another woman who never received her due in the sciences. Dr. Brothers is in private practice at UCLA. In 1990 she wrote a paper that introduced the field to the idea of a social brain with regard to certain areas being particularly important. In her paper she described different areas of the brain, including the inferior part of the temporal cortex, the superior temporal sulcus, orbital frontal cortex, cingulate, temporal lobe, and the amygdala. Since then, there have been many studies — both in monkeys, and more importantly, in the human brain — to flesh out what this might look like.

The superior temporal sulcus is particularly responsive to biological motion, which is one of the ways we make contact with the world outside. This is where we store information about a highly flexible motion that is a characteristic of animate things, living things that move on their own — what we call biological motion. Lateral parts of the fusiform gyrus are particularly important for representing the form of biological entities such as people and faces; not their motion, but their form. Other important areas of the brain include parts of the medial prefrontal cortex, the posterior cingulate, and, in particular, the anterior insula somatosensory cortex. These are the areas that have been implicated as part of the social brain, each with different functions but working together to allow us to understand the social world.

I want to point out some characteristics of what I mean by a domain-specific system. One characteristic of a domain-specific system is the idea of automaticity. These are systems that work incredibly quickly and appear to fire easily. What I mean by automaticity is that you can detect, in a visual scene, a face and/or an animal (biological/animate images) amazingly fast. This type of recognition happens within 100 milliseconds, based on recording eye movements from the time something happens out in the world. That is very different from other types of objects that take humans longer to detect. The other piece is called the poverty of the stimulus. What I mean by that is it takes very little information to trigger the system. In addition, this kind of activity is typically triggered, and most easily triggered, by dynamic stimulation — meaning things in motion. It takes a tiny little spark, in a sense, to fire the whole network. Let me give you an example of the stimuli we are talking about.

[A slide was shown of an image of dots on the screen.]

You have probably all seen examples of this. Does everybody see this as somebody walking? Is it a male or a female?

PARTICIPANT: Female.

DR. MARTIN: Some people say female, but it is a male. This might be a projective test. It is difficult for most people not to see the image as a biological entity. Another example is a simple motion coherence task. You are in the magnet and your task is to report whether dots are moving to the left or to the right. A small number of dots are moving, about 10% coherence. Another example is the stimuli of a group of little red dots and whether or not you see them as a little Pac-Man, whether or not you see that as animate. The social brain goes crazy.

We know from many other studies that the superior temporal sulcus is particularly responsive to biological motion. When little dots that look like Pac-Men appear, even though your task is to report if the dots are moving left or right, this part of the brain fires. It is biological. Again, you may not consciously recognize it as such because your task is to report motion to the

left or right. One last point is that this circuitry is involved in understanding the social world, even when the stimuli are quite different.

Here is an example using solely verbal information. Subjects in a magnet are asked to read the following sentence and each word appears for about 300 milliseconds: “The tyrannical chef insulted the busboys.” We compare that activity to another sentence, matched for word length and frequency of the words: “The paper lantern quickly floated upward.” When people are reading these sentences the whole brain system is activated when we compare the social-emotional sentences to the more object-related sentences. There is a system that represents biological motion and another that represents biological form.

The amygdala is involved in emotional responses. The medial prefrontal cortex, the higher order affective control system, also comes online from reading these types of stimuli. This is the social brain. What is it for? We, and many others, have done studies with different objects looking at different types of circuitry. When you see different classes of objects, different circuits are activated and their function allows us to make inferences about that object. For example, when you see two holes through a hammer, there are a number of areas that are involved in the manipulation and action with objects. The circuits come online only when you see the object. That is how we understand what the object is, and that is how we know what we are going to do with the object. If the object is something like appetizing food, a different set of circuitry is activated that is involved in making inferences about the taste of things and their reward value; the insula and the orbital frontal cortex. In that context, this system is all about making inferences about what others are feeling and thinking.

We now have the background. With that in mind we can look at our clinical population, which is defined particularly by their difficulties in the social world like many of your patients. This is autism narrowly defined. This is not about all of autism. This is about typical Bethesda or Potomac, Maryland high socioeconomic status, intelligent but socially awkward teenagers. We know these people. They are, on average, about 17 years old. We conducted a study that tracked eye movements when participants looked at social stimuli such as faces. We found, maybe not so surprisingly, that the autistic adolescents look less at the faces and their memory for faces is not very good. However, the behavior is specific for these stimuli because they are doing just as well as the controls with other types of stimuli, which are round, similar to faces, but not animate, not social. The autistic adolescents have a domain-specific memory impairment because of a domain-specific scanning impairment. We found that there are aberrant responses within the system for social animate stimuli versus non animate control stimuli, which means the autistic adolescents are using a different type of circuitry for their understanding.

Here is the point I want to make for the rest of my talk. There are many studies in the literature — in autism groups and other clinical groups — showing aberrant responses in several areas of the brain. We see the fusiform face area, the superior temporal sulcus, the amygdala, and the medial prefrontal cortex — all those social areas in one study after another — responding in an abnormal way in people with social difficulties. Here is the issue. When we do these studies, we can document that there is aberrant, abnormal activity throughout a whole host of areas that I described to you as the social brain. The point is, this is not a local problem. There are not one or two particular areas; instead perhaps something is wrong with the circuitry and that is what we are studying. I take people who have social difficulties, I do a social task, and I find that there is something aberrant in their brain circuitry. That is important in terms of proof of concept — that we can engage the correct areas of the brain and we can understand what is going on. In this sense, we are always looking under the light. What about other tasks? What about other types of abilities? How are we going to get a whole picture of an individual's brain if we are constantly doing this, which is circular, if you think it through?

What we really want is some way to systematically evaluate all the circuits in a patient's brain in an unbiased way, without pre-deciding what the task should be. I will describe how we go about doing this and how others do it. The question is not whether there are aberrant functional circuits in autism, depression, schizophrenia, etc. We know that is true. It has to be true if you accept the fact that these are all disorders of the brain. If they are brain disorders, they are circuitry disorders. There is no alternative. Carl Wernicke said this in 1906. This is not new information. Nobody needs a scanner to know this.

Wernicke called this *sejunction*, which means a loosening of connections. Now we can expand this because there are many alternatives. We call this the hypothesis phase. There are many ways all circuits can malfunction. Some circuits could be hypo-connected, reducing connections. Other circuits can have increased connections or hyper-connectivity. There can be differential involvement of the brain of short-term versus long-term connections. There can be system-specific connections, only in the social brain, or there could be different types of subgroups. How can we make progress, given all the alternatives in the hypothesis phase of ways that brains can malfunction? We want something that is unbiased; not pre-determined by me with my little circles on the screen or whatever social task I come up with. We want something that is driven by the data we plan to collect.

I will describe the model system that we, and others, are using for different neuropsychiatric disorders. We want to take advantage of a fairly recent discovery that within the brain there are incredibly slow moving waves that

you can record with fMRI. This is called rest-state scanning of slowly fluctuating, spontaneous neural activity.

[Slides were presented showing what eight minutes of data looked like. The audience saw that some wave forms were very slow and some were very fast depending on what part of the brain was highlighted.]

There was a significant relationship between the way the waveforms fluctuated, and that correlation was used to make a claim about the co-variation of these activities — the neural activity. If they are related, they are correlated. That allows us to make the claim of connectivity. It is all about correlation of waveform.

[A slide was shown illustrating the concept of a voxel, which is one small square in an MRI image, and how using data from voxels can measure how connected different parts of the brain are.]

From voxels we can create things called connectedness maps. Remember, the subject is doing nothing. The subject is just lying in the scanner while we collect eight minutes of data. Now we have all our control data along with all our patient data and we can create connectedness maps. What are we going to do? We do a comparison, using the simplest statistics you know. We do simple t-tests and see which areas are different between our patients and our controls — no picking, no selecting, nothing. What happened? In this case we found several areas more connected in the control subjects than in the patients, and these areas were all part of that social brain, including the medial prefrontal cortex. We found more connections in the controls than the patients.

Twelve regions of the brain were identified by doing the t-test, all of them part of the idea of the social brain, plus the cerebellum. We used the 12 areas to see where, in fact, they were connected. We looked for connections in the patient group and the control group, and we looked to see how they differ. We did a procedure called multi-dimensional scaling, which is a mathematical test to look for regions that show the same types of patterns of connectivity. We found three different clusters and we color coded them. I want you to keep in mind that, again, we are not selecting anything. In a real sense, the brains of these patients are selecting the circuits for us.

[A slide was presented showing the colored sub-circuits and what parts of the brain they represented.]

Color coding allows researchers to order the regions and to measure the correlation values across the control subjects. What does that mean? It basically says that, out of this large-scale social circuitry, there is a particular type of disconnection. It is the disconnection between Circuit 1, which I call social inferences and affect, and the other two circuits — one involved in communication and control; and the other involved in social perception, biological form, and motion.

The last point I want to make is that today in modern cognitive neuroscience there are many patient studies of this type. Everybody is going to find a difference. This is the critical question. We call it grounding; the idea of how do you know any of this information matters? Is it meaningful? We have two ways to say that maybe this is meaningful. One question to ask is, is this effect neurobiologically plausible? The second, more important question is, is it clinically relevant? To assess neurobiological plausibility, we can look at monkey neuroanatomy in the macaque, for example, and find that yes, Circuit 1 in the macaque is monosynaptically connected. The regions we see in our analyses, at least in the monkey, do have connections; in this case connections in the superior parts of the anterior temporal lobe with medial prefrontal cortex. The circuits make sense, not only based on human data, but based on true track tracing in the macaque.

Does it matter clinically? Does this have any relevance to behavior? Our answer is yes, in the following sense.

[Slides were shown illustrating a typical measure of social ability, not used in the diagnosis. The measure is a social responsiveness scale that is filled out by the parents of the patients. The higher the score, the more autistic symptoms seen in the individual. Slides showed the measures of connectivity.]

Lower connectivity, or the more that there is a disconnection between Circuit 1 and the other two circuits, correlates with the presence of more autistic symptoms. That holds for the relationship of Circuit 1 to 2 and 3, and for each circuit separately. This means that the weaker the correlations are, the more impaired the patients are and the weaker they are within this particular set of circuits. The types of social impairments that we have been studying appear to be related to what we call a fractionation of the social brain. It is the fractionation of a large-scale set of regions and circuits characterized by a de-coupling of limbic areas, such as the amygdala, and the anterior part of the hippocampus, from lateral, frontal, temporal, and posterior sites. The general point is that resting-state scanning, the analysis of the slowly fluctuating neural activity recorded at rest, is useful for identifying the large-scale circuitry associated with different types of neuropsychiatric disorders.

DR. WAIN: What about patients with unexplained medical symptoms? What might you think would be going on brain wise? For example, you have a patient with a non-epileptiform seizure with no previous history of seizure disorders, or even any of what we typically call somatoform spectrum disorders, and without an Axis III diagnosis; without a true medical diagnosis.

DR. MARTIN: I do not know. It would be interesting to take patients like that and put them into this situation to get a sense of what is going on with the circuitry. Is there anything in common among them? One of the big problems with these studies is the inability to say anything about individuals

at this point, which is really the goal you want to achieve. You want to be able to say something important about a single patient. Nobody is at that point yet, but I think that is what it would take. It turns out that in autism, about 40% have epilepsy as a syndrome. Why is that? Where is that coming from? You would think it must be related to something different about the circuitry in those individuals, but the question has not been answered.

Ethical Concerns in Patients with Complex Medical-Surgical and other Unexplained Medical Issues

Edmund G. Howe, III, MD, JD

Dr. Shannon Ford, a psychosomatic medicine fellow, presented three case studies for Dr. Howe to provide comments:

DR. FORD: The first case is a prominent member of a community sports league who is on dialysis and in need of a donor kidney. She is a 31-year-old female, and is eligible for TRICARE because she was medically retired from the military after being diagnosed with glomerulonephritis and IgA nephropathy while deployed to Afghanistan for the seventh time. She also has diagnoses of major depressive disorder and posttraumatic stress disorder secondary to her experiences while deployed as a combat camerawoman. She belongs to a community sports league and reached out to them through social media. Two people responded to her request for a donor kidney. Both potential donors completed the routine medical screening and were found to be medically acceptable for donation.

The medical team had strong concerns about her participation in the transplant process because she had a history of non-compliance when she first required dialysis. She had lost her military career, her boyfriend, and, in her mind, her future as she knew it. At that point she felt hopeless and stopped treatment. She was not adherent to diet and she was difficult to reach for follow-up. However, in the past year her behavior changed and she was much more compliant. There were still lingering concerns that she would be minimally participative in her recovery since things such as signing up for Social Security had yet to happen.

The first donor, who volunteered via social media, was a 32-year-old female, married, with one child. The potential donor denied any current mood or anxiety symptoms. She was obese but ultimately lost 40 pounds in preparation to become a suitable donor. She had a past psychiatric history notable for depression, but this had been well controlled with fluoxetine for many

years. She had a strong, supportive, stable marriage, family support, and was employed full time. The potential donor felt she had an opportunity to help someone she knew even though the two women were not close. She understood the risks associated with the surgical procedure, that the donated kidney may be rejected or may fail, and she was willing to fully participate.

The second potential donor was a 29-year-old single male who separated from the military about one year earlier. He found a bond with the recipient through their military service. They had common diagnoses of PTSD, and he volunteered to be a donor during the time the two of them were getting to know each other. When we saw him he denied current overt depressed mood or anxiety, but something was still “off” to the consult team. We encouraged him to return to the Veterans Administration Hospital (VA) for further support and treatment since he continued to report a sense of loss and purposelessness to his life. Still, he had responded appropriately and without any concerns to the standard questionnaire that is used for psychiatric clearance for all donors. We questioned aspects of his true motivation to donate and asked about what appeared to be ambivalence on his part regarding this donation. He had significant difficulty answering some of our questions about how he would feel if this donated kidney were to ultimately fail. His answers led the consult team to ask him to consider what it meant to him to be a donor, and then to come back and see us in two to three weeks to re-discuss.

In the interim between the first and second appointment with the male donor, who medically was preferable for a few reasons, the male donor and the recipient met again. They were in the process of potentially beginning a romantic relationship. The potential donor reported significant distress to the recipient about the interview process and the intensity of the psychiatric interview that we conducted with him. He disclosed to her that he was not actually interested in a romantic relationship with her and that he had strongly considered he would suicide in the next two years. He hoped that if he donated his kidney a piece of him would “live on beyond him.” It had not occurred to him that his kidney would fail, thus essentially ruining his plan of continuing to exist after his death. The recipient then disclosed this information to the transplant team.

The ethical question I have for Dr. Howe is, what role does the consulting psychiatrist play in preventing a patient who has the capacity to make medical decisions from becoming an altruistic donor, given the secondhand information about a suicidal fantasy that he had not previously disclosed? Since we had a viable donor, the female with the stable marriage and stable employment, does that change the decision?

DR. HOWE: I want to make several preliminary comments about what ethics has to do with psychiatry. Why ethics? The answer is that it may send

you on an alternative clinical flow chart for your patients. For example, if there is an empirical question such as which antibiotic to use, we ask the doctors or nurses because they are the experts. On the other hand, if there is an ethical question, should the doctors and nurses decide? The question here is, does empirical expertise lend itself to greater ethical expertise than patients have? Many physicians tend to assume that, but it has been questioned a great deal by the community at large. Clinical expertise does not necessarily generalize to ethical expertise. This means that, perhaps, physicians should not make ethical decisions for patients since it is the patients' needs that are at stake. Maybe we should use a different flow chart. From an ethical perspective, maybe patients should decide.

I have one more preliminary comment. When we began teaching ethics at USU, medical ethics was a new field. In 1977, there were only ten medical schools that taught medical ethics and USU was one of them. How do you begin to teach a new field? We brought in Sam Gorovitz, Chair of Philosophy at the University of Maryland, who had written one of the few books available on medical ethics, *Moral Problems in Medicine*. Dr. Gorovitz told us an interesting story. When he spoke to doctors they would protest, as you all might protest at some of the things I say, that he was being too hard on physicians. When he spoke to lawyers, they would say you are being too easy on the physicians. The point of the story is that we all have particular biases that make us think we should make certain decisions for patients.

In ethics those terms are paternalistic. There are two flow charts that I will describe. The first will emphasize what, in ethics, are called deontological values, which focuses on the rightness or wrongness of actions themselves as opposed to the rightness or wrongness of the consequences of those actions. The second is a perspective in ethics that is about two decades old, the care perspective, which emphasizes relationships.

In these three case studies we will see how placing emphasis on autonomy and equality, which are deontological or non-consequentially based values that violate utility and paternalism, may alter what one might want to do. We will also look at the care perspective.

Should I allow a person who is competent, namely the persons who were willing to be donors and the particular male donor who might have been suicidal, to donate a kidney to a stranger? First, let us look at the person who needed the kidney. She was the one who shared information that the potential male donor might be suicidal. Let us consider that before we pass over it and look at the big question. We can ask, should the psychiatrist have informed the recipient that any information she shared might be used to make decisions? Should a psychiatrist say before the interview, "I'm going to ask you questions, and if you tell me anything like the donor might be suicidal, that could affect whether we accept him or not. And we may have to tell him

that that's why we aren't accepting him." She might say, "He's my buddy. He used to be my boyfriend. I don't want you to give him that information. He'll think I've betrayed him."

The general notion is to be as transparent as possible. For example, I recommend that you share with all patients the information you know, based on your background, that might be relevant to the decisions the person makes. The burden should not be on you about whether to share information if it may influence the patient. Transparency is the operating premise. The burden is on the person to make the case to themselves. Are there consequences? Yes. If you are transparent, you may lose important information. In this case you could lose the information that the male donor may be suicidal.

There are always "hits" with every ethical issue. What if you did not warn her and she says, "Whoa, you didn't tell me that. I don't want you to use that." Does the analysis change at all? Should you put any more moral weight on not using the information about suicide, or not telling the male donor that is what you are worried about? Alternatively, the recipient could change her mind after you have warned her. What moral weight should those considerations have? Those are items you want to be sure to take into account.

What about the male donor that talked about suicide? He passed the screening test. He was competent. What is the healthcare provider's ethical expertise? Some physicians may have great expertise, but some may have relatively little. Is having a license to practice medicine enough? What does, "I may commit suicide in two years," mean? Can we predict from that? Is it the same as saying, "I have my gun loaded at home?" No, so that is an empirical question which might also warrant a large moral weight in this case. The bottom line question is, can the doctor or the evaluation team decide whether or not to include this donor based on the information about suicide? A case can be made both ways, and that is the question that should be asked.

I spoke about the care perspective before, which puts emphasis on relationships between people and feelings. You might consider sharing your concerns with the donor, "We know that you are thinking of suicide two years from now, and we are concerned about allowing you to be a donor under that consideration. What do you think?" That is, of course, a clinical question that we could discuss the whole afternoon. Finally, in this instance, should I allow a person who is competent, but impaired, to donate a kidney to a stranger when there is another donor who is motivated to donate? She lost 40 pounds and she understands the risks, unlike the second potential donor who shared the suicide information.

What does equality mean? We have two donors who are considered competent. Equality might mean flipping a coin between the two, not paternalistically, but deciding on the basis of components other than being competent. Is one donor a better match for a successful transplant? How should that

balance your decision? In summary, you might want to ask what the risk is in terms of the match. You want to get the best match to maximize the success of the transplant. However, you may also want to consider the principle of autonomy — that is that both people want to be donors — and that might warrant greater moral weight. That might lead you to be more open to accepting the male donor who talked about suicide. Again, we talked about burden. That is a tool I am trying to give you. The burden is saying why one should not give equal opportunity to the male donor.

You must recognize the limits of your own expertise when making a decision. For that reason you might want to refer the decision to another appropriate body to decide, for example the Ethics Committee or the Commandant. The idea is to “turf” it to the process which is likely to work best, even though that group might make the wrong decision.

DR. FORD: The second case involves a former Marine who also wants to become a donor. He left the Marine Corps about six months prior to our first meeting. He moved to the District of Columbia to enroll in school. His wife was already well established in her career. He had 180 days of TRICARE eligibility after separating from the Marine Corps. When he was in the hospital to refill a medication, he walked by the transplant office and reported to us that God had spoken to him and he now had a calling to be a donor. He and his wife both decided to volunteer to be screened, but she was ultimately ruled out for medical reasons. He continued with the process, and because he had a history of ADHD and a prescription for Concerta, he was referred to the consult service. He reported that the Concerta was for memory problems. At the time of the interview, not surprisingly, AHLTA (Armed Forces Health Longitudinal Technology Application) was unavailable, so we had no access to his prior records. He discussed freely his desire to donate. He talked about his faith. He did not identify himself as religious, but reported that he attends church regularly, feels God routinely speaks through him, and he has a call to serve. He felt that he had the ability to change someone’s life through donation and should be allowed to do so. He physically demonstrated having his hand come down and touch another person by this donation.

When we had access to AHLTA we conducted a complete record review. He was separated from the Marine Corps administratively for a personality disorder not otherwise specified which was diagnosed with psychometric testing and an interview. He originally sought behavioral health treatment before this diagnosis because he was having difficulty at work. He transferred to a more administrative specialty, and he was struggling with the job requirements and the personnel in his office. His original diagnosis was an adjustment disorder. He was treated for ADHD, which was a diagnosis presumably carried forward from childhood, but he continued to struggle interpersonally in the office.

An administrative route was found for him to separate from the Corps, and he completely agreed. He said he was done. We asked him to come back and see us because we had new information that he had not shared at the first appointment. He was rather irate, to say the least, that he had not been immediately cleared as a donor, and he was angry that the follow-up appointment took several weeks to schedule. He accused the establishment of covering its own backside and preventing him from using his God-given power to reach down and change someone's life with this donation. I was able to get more psychiatric history from him at the second appointment. It was all completely congruent with what was reported in AHLTA. The question we pose to Dr. Howe is, was withholding information about how he had been administratively separated from the Marine Corps or the fact that he had been previously diagnosed with a personality disorder sufficient reason to take a more paternalistic approach and prevent this individual from becoming an altruistic donor? We were apprehensive about the patient's ability to manipulate the system post-operatively, or to use his donation as a way to maintain healthcare benefits for an extended period of time.

DR. HOWE: One's competency is a legal determination; one's capacity is a psychiatric determination and it is complicated. There can be fixed standards that one must meet, but there can be a sliding standard that one can use which varies the degree to which the person has to be competent with the outcomes at stake. If so, one might clinically apply the sliding standard and then present to a judge how they might play out. Judges, by and large, tend to defer to their psychiatric experts.

There are different ways to determine whether or not a patient has capacity because the determination is a judgment call that involves some ethical values. How much moral weight do you place on somebody not sleeping for a week versus losing their family one day ago in a car accident? This is unlike tuberculosis, where we can grow the bacteria and look at it under a slide to externally verify a diagnosis. That being the case, if one psychiatrist says, "Yes, I find him competent," then it is the end of the conversation. However, if you have a different view, the question is, should you accept right away or should you say, "I want to present this case to the Ethics Committee?" If the Ethics Committee presents a decision you disagree with, then there is another question. Do you go to JAG and say, "I want to bring this forward to a court. This should be decided by a judge with procedural safeguards. I disagree with the determination of the psychiatrist on call."

Whichever standard we use, clearly the standard does not say someone is incompetent if they have a personality disorder or ADHD. Does the burden of competency of the donor belong to the psychiatrist? Footnote: it may be that the competency standards are not adequate. For example, years ago at Walter Reed a psychologist raised questions about whether a patient with

traumatic brain injury was competent to make decisions about a major procedure. He met the present standards of competency, but on more subtle extensive psychological testing he showed a number of deficits which suggested that his determination might not be intact. The concern arose because the standard of competency might not take his other deficits into account.

Competency is more complicated than simply asking what the standard is, applying it, and then getting an automatic result. In this case the donor wants to be altruistic. There is a great deal to be said for allowing people to be altruistic. For many, altruistic behavior might be the major way they derive meaning from life. It is not trivial and that is the donor's point. One could say the burden is on the psychiatrist to make a case in favor of the donor's altruistic behavior once the competency issue has been met.

Health care providers can have biases, referring back to the Marine's words — "covering one's backside." People might also have biases about donating to strangers. Indeed, the literature shows that our society does have that bias. Iran is the only country that does not have a donor problem in terms of having enough kidney transplants. There are reasons why a person might be biased, and you always want to check out the possibilities.

If we allow this Marine to become a donor, what are the consequences? Remember, there are always consequences. He might be manipulating the system, as Dr. Ford pointed out. He might be able to maintain medical benefits if he donates. What is the take-home point in this case? In general, the point is that there is a problem when you wear two hats. In this case the clinician is raising ethical concerns, while having a mixed, possibly mutually exclusive, conflicting loyalty as a member of the military, and wanting to protect the system from being manipulated. You might easily think you can wear both hats at the same time, but the price of wearing both may be profound. You may be unable to do either well.

DR. FORD: The third case is not a donor/transplant case. This case involves an unexplained medical symptom. The patient is a 28-year-old active duty soldier, who has approximately a year and a half history of a truncal tremor that became abruptly worse. He was evaluated by a movement disorder specialist in the neurology clinic, received a second opinion, and has an appointment to get a third opinion. We were asked to consult on the case. The symptoms are a near-constant movement, with mainly forward flexion, and intermittent head and leg shaking. What are most important about these movements are not necessarily their intensity, but the duration and the fact that they are consistently distractible during the neurology evaluations with changes in the amplitude and intensity when he is asked to perform other tasks. Every health care provider who has seen him has noted that the intensity of his symptoms in the waiting area versus the clinical office are significantly different.

During his psychiatric evaluation he demonstrated limited insight into the potential cause of his current symptoms, and he was focused on the idea that there may be an impinged nerve causing this almost full-body tremor. He denied every symptom of depression, anxiety, or mania, but he did note some disruption in sleep and an increased appetite due to the constant movement leaving him hungry and dehydrated. He denied any issues from childhood including no history of abuse. Interestingly, he completed three years of college and then abruptly left to join the military. He is due to finish his commitment in the Army in seven months. His job, which is partly ceremonial, requires him to stand at attention in full body armor for 14-hour shifts. This is very distressing and clearly his symptoms have interfered with his ability to work. He has not been working since his symptoms began. His command is very interested in helping him. Either the symptoms have to resolve so he can return to work, or he will be moved to a transition unit and processed out of the military through a medical board.

The soldier reports being interested in seeking other opinions and undergoing more tests and procedures to find out the organic cause for his symptoms. He says he wants to remain on active duty, though we sense there is probably some ambivalence. He is not interested in individual psychotherapy so if his symptoms do not improve he will go to a medical board, forcing his separation from the military. Ethically, how do we handle the potentially coercive nature of this treatment recommendation, which is basically seek behavioral health or else?

DR. HOWE: Is it potentially coercive to say to him, “Here’s the deal. You either get out of the military or you seek therapy with me and we take our best shot?” Yes, it is coercive. My compliments to the team for recognizing that this action is coercion. However, that does not mean that it is a poor choice. Sometimes, these types of side effects are unavoidable. It is important to recognize the coercive aspects. In this case, this might be the best way to look at and acknowledge what the problem is with the patient. This raises the general question of, how often should one explain what is going on so that you and the patient can go forward as a pair? Is this an example of such a case?

When Dr. Schneider presented at grand rounds in the Fall he said, “We don’t want your psychiatrists making suicidal contracts with patients.” Years ago, it was thought that suicidal contracts were what you should do. That was before new data came out suggesting that the contracts were not advisable. The hypothetical question is, if the policy was to do suicidal contracts, but you were ahead of the game and thought it was wrong because it might destroy the doctor-patient trust and the relationship, should you share that with a patient? Should you have said 20 years ago, “My department says I’m supposed to do a suicidal contract, but I personally think that won’t help at

all, and I'm worried about losing trust. I want us to have a therapeutic relationship."

The first case today illustrated how one might want to use the principles of autonomy and equality to go down a different path or flow chart. The second case used the same principles. In the final case, we looked at the new ethical care perspective, two decades old, to wonder whether we would want to involve the patient in the decision even though it is a coercive approach. Some of you were around when I was working with Dr. Wain years ago. In those days, for this type of patient, we might have used sodium amytal. There were fascinating outcomes with that approach. That is my segue into saying the next question is for Dr. Ford. How will you treat our third patient in psychotherapy? That is something we should all look forward to learning.

Essentials for the Psychiatrist Working with Transgender Patients

Jack Pula, MD

Today's objectives are: 1) to understand the historical context and current clinical barriers to care, as well as some of the social barriers transgender people face; 2) to learn important terminology; 3) to learn high-yield aspects of the gender dysphoria diagnosis; 4) to update you on treatment standards; and 5) to increase awareness and understanding through my own autobiographical account.

I am currently on the working group for the treatment of gender dysphoria at the American Psychiatric Association (APA). There are seven of us on the group, and six of us recently presented at the APA conference. We offered a seven hour course on this topic, and we had about 40 participants. It will be quite difficult for me to condense seven hours into well under one hour, but I will do my best to give you the high-yield information, leave time to tell my own story, and then have time for questions and discussion.

In 2012, the APA task force on the treatment of Gender Identity Dysphoria (GID) published its findings in the *Archives of Sexual Behavior*. The task force reviewed the literature for evidence for the treatment of what we then called GID. The question was whether or not clinical guidelines could be developed for psychiatrists so they could better understand GID. The evidence was not robust enough to support clinical guidelines, so we are working to create clinical recommendations, which is part of the function of my working group. Clinical recommendations will be helpful to ensure competent, realistic, ethical, and humane treatment.

It is important for you to understand some basic terminology, with the caveat that the terminology changes over time. If you work with trans people, you will find a great deal of different terminology floating in and out. The terminology evolves quickly, so it is important to speak with your patients about what terms they are using. Gender is the publicly lived role as boy or girl, man or woman. A gender assignment is that initial assignment one gets at birth, which we call natal gender. That is the gender the pediatrician

says we are when he or she examines the anatomy of an infant at birth. Gender identity is one's subjective identification as male, female, or some other category. Gender atypical describes somatic features or behaviors that are not statistically typical in a given society and historical era. Other terms for gender atypical include gender non-conforming, gender variant, and gender discordant. Cross-gender is when one identifies with the gender opposite to gender assignment. Gender fluid describes a flexible and mixed gender expression, and gender spectrum is a way to think about gender, as opposed to the traditional binary. Many people today think more on a gender spectrum.

Gender queer is a newer term that is used by those who identify outside the binary or with a mixed gender identity. This term evolved because people did not feel that transgender adequately described them, and they wanted a word to express their need to be somewhere in the middle. Transgender is a very popular term. It is an umbrella term that evolved between 1970 and 1990 and became rooted in the 1990s. It refers to a broad spectrum of individuals who transiently or persistently identify with a gender different from their natal gender. Transsexual describes individuals who have sought or undergone a social transition, and who may use somatic transitions or somatic technology, including hormones and surgery. There has been banter back and forth within the community about whether to use the word transgender or transsexual.

Trans is a very new term. You will not see the word trans in the academic literature, but you might begin to see it appearing in different types of literature, and certainly online. Trans is meant to be a new umbrella term to represent all atypical genders. F-to-M is female to male. You will hear the phrase F-to-M transman. M-to-F is male to female, and M-to-F is called transwoman. Some people want to be called transman or transwoman. Some people want to be called man or woman. This is a very important distinction. Transgender non-conforming is shortened to TGNC. Cis is a word used to describe the opposite of trans. Gender conforming treatment and gender confirming surgery (GCS) are other phrases to know. You may also hear SRS, which is an older term for sexual reassignment surgery. Gender reassignment usually refers to the official legal change of gender. Many of these terms are in the DSM. Gender dysphoria is the effect of cognitive discontent with assigned gender, and that can extend to the DSM diagnosis.

Transgender people date back to ancient time. We have evidence of that, and we have evidence of trans people in colonial times, certainly in the Native American culture. Over the past century there has been a blossoming of trans people. In the fields of endocrinology, surgery, psychiatry, sexology, and psychoanalysis we have at least a century or more of experience. In the late 19th century and early 20th century, there was a conflation between sexual orientation and gender identity, so we spent 120-130 years trying to

parse that out. That is a very important distinction. People still become confused over this. I think part of the reason for the confusion is that the two issues are intimately intertwined.

One of the main take homes for today is to move the arc from pathologizing to de-pathologizing trans people. That is where we are in modern medicine, modern psychiatry, and in the culture today. De-pathologizing is a source of tension within psychoanalysis, perhaps less so in psychiatry, and certainly in the field of child psychiatry. There is a great deal of stigma attached to being trans. When our field pathologizes it, the stigma becomes worse and can contribute to violence. Today we think of trans as more of a variation. There are many questions asked about gender, including why do we have gender in the first place?

Some of you may know Harry Benjamin. Dr. Benjamin was a famous endocrinologist who worked with hundreds of trans people, and we have learned a great deal from his work. He was actually a bit hostile toward psychiatry because, at the time, psychiatry was trying very hard to talk people out of their gender identity. Dr. Benjamin thought gender identity was a biological problem that deserved treatment with hormones and surgery. He founded the Harry Benjamin Society, which later became the World Professional Association for Transgender Health (WPATH). They have issued seven iterations of the standards of care, which I will talk about if we have time.

Many of you will know Robert Stoller, a famous psychoanalyst and psychiatrist at UCLA. He worked with trans people and wrote many case studies. Some of the case studies are a bit disturbing because it looks like he is pathologizing, and in some ways he was since it was what people were doing at that time. But in other ways, Dr. Stoller is seen as a champion for trans people. He said that you could not talk a person out of their gender identity, so it was a waste of time to try to analyze it out of them. From 1970 to 1979, we saw the rise and fall of gender clinics in 40 universities in this country, including the clinic at Johns Hopkins University. Why they all closed is a complicated question. Some of the closures were political and some were due to funding.

The Dutch have been the mainstay and have provided us with very important research because they keep such good data. You are all aware that this is a hot political issue. Obviously it is a political issue in the military and around the country. It has been part of the civil rights movement that has gained momentum since the 1990s. The impact of the Internet and the global network of activists bringing information to the public have had a large influence as well.

One of the recent controversies in psychiatry centered on the diagnosis, which used to be GID. Today the diagnosis is gender dysphoria. The diagnosis was changed in an effort to de-stigmatize trans people. Think about

the psychiatric approach. Do you try to work with people? Do you accept their identity? I believe it is very important for psychiatry and medicine to think about the ways in which we label people's identity. Identity was an issue when it came to homosexuality. It is also an issue for trans people, and could be an issue for other forms of identity. When we label identity, and assign pathology to it, we create many problems. The challenge for psychiatry is to reclaim what we can provide for trans people.

We do not want to pathologize. We do not want to control. What can we do? I believe we can do a great deal because we are well oriented to work in this area if we increase our training. Recently, the APA has taken a positive position towards trans people. In 2012, the APA issued its Access to Care position paper, and subsequently a non-discrimination position paper. In 2011, the National Transgender Discrimination Survey, an online and paper survey of over 6,000 participants, gave us a wealth of information about discrimination. We learned a great deal about discrimination against trans people, and the types of problems they struggle with every day. For instance, 30% of trans people claimed to have a mental or physical disability, compared to 20% of the national population.

A very startling statistic is one on suicide. Forty-one percent of trans people reported attempts to commit suicide, compared to 1.6% of the national population. The suicide figure comes from an online and paper survey so we do not know what the statistic actually means since no assessment was done. There is some nuance, but suicide is a big problem and a big risk. HIV was reported in 2.64% of trans people, and 25% reported abuse of drugs or alcohol to cope with discrimination. Twenty-eight percent of trans people reported having been harassed. These numbers may reflect one of the big problems that trans people face. They often feel they cannot turn to medical providers or psychiatric providers for help. Nineteen percent of trans people reported refusal of care when showing up for medical care, 28% reported postponing their care in order to avoid these types of experiences, and 50% felt that their providers lacked knowledge in transgender care. We have all been through medical school, and we have all been through residency training, so we know that statement to be a fair one. I have struggled with whom to go to for medical care and have had various experiences. I have left some doctors because of my experiences.

Forty-eight percent of trans people delayed care when sick or injured due to their inability to pay. Poverty and lack of socioeconomic opportunity is a big problem for trans people due to many reasons, including discrimination in the work place. There is no federal legislation precluding private sector employment discrimination. You may know about the Employment Non-Discrimination Act that has been proposed and passed by the Senate, but has stalled in the House of Representatives. In 2014, the 1964 U.S. Civil

Rights Act, Title VII, expanded its interpretation, by the U.S. Office for Civil Rights, to include people with different gender identity and people who do not conform to stereotypical notions of masculinity or femininity. They have offered to hear discrimination cases. This applies to public and private sector employers with 15 or more employees, but how many trans people know about this, or how many trans people can make use of it? In the future you may be hearing more about lawsuits due to transgender employment discrimination. Eighteen states have policies that prevent transgender employment discrimination in a handful of cities, including Washington, DC, New York City, and Philadelphia. I work with many patients in their forties who are professionals. They are established in their fields, and they are trying to come out. They are struggling and worried about what is going to happen to them. They experience a great deal of intense fear.

A study of over 5,000 trans veterans in the electronic health records database showed an increased prevalence of mental health conditions, including suicidality, PTSD, alcohol, depression, and increased prevalence of medical diagnoses. These findings are consistent with the National Trans Discrimination Survey. In 2008, another survey of 827 trans veterans showed that 10% were turned away for being trans and many reported lack of respect from doctors, non-medical staff, and nurses. This is a very important point. Some people were denied services consistent with their natal gender. I am a female to male trans person. If I go to the emergency room for medical help and the medical staff cannot accept the discrepancy between my anatomy and my gender identity, I would be in a very difficult situation. This is something that happens and requires doctors to think outside the box and use their knowledge of anatomy and gender and the expectations that trans people have for their health care providers to be more creative.

The Veterans Health Administration (VA) has a directive on “Providing Health Care for Transgender and Intersex Veterans,” that requires a non-discrimination policy. The directive requires respectful, culturally sensitive care, and also clarifies what transgender services are provided by the VA. Significant progress has taken place. There are mental health evaluations and services provided, but now the VA also provides gender affirming hormones, mental health and medical evaluations for sexual reassignment surgery (SRS), and SRS follow-up care. The VA does not provide surgeries or reimburse for them, nor does the VA have a provision for cosmetic surgery.

The Palm Center is a leader in commissioning and disseminating research in the areas of gender, sexuality, and the military. Through their research they found that there are over 15,000 trans personnel in active Guard and Reserve components of the military. A high proportion of the personnel are male to female. There are approximately 134,000 transgender veterans, and trans citizens are twice as likely as cis citizens to serve in the military. Why

is this? One thought is that the very strong gender binary tradition in the military provides some sort of psychological conversion training for individuals or provides structure that helps alleviate the strain for trans people. However, many of them cannot cope and comply with the strain, and they end up buckling under the system. It is at this juncture where you might see them as patients. What is it like for those of you who have trans people as patients? I imagine that if the ban in the military is lifted, you will be seeing more and more transgender patients. Transgender related conditions are the only gender related conditions that require discharge, irrespective of fitness for duty. There is no medical evidence that shows transgender people are unfit to serve.

We began with the term gender identity disorder. The phrase put the words “gender identity” and “disorder” together, which was problematic. Today we say gender dysphoria, and we are focusing on the actual dysphoria since that is where the pathology lies for people who are struggling. How do we diagnosis gender dysphoria? The diagnosis requires a marked incongruence between experienced and assigned gender of six months duration or more with clinically significant distress or impairment. I do not know if many of you work with children, but the diagnosis for children requires 6 out of 8 of the category A symptoms. For adolescents and adults, a diagnosis requires 2 out of 6 symptoms. Symptoms include things such as a persistent desire to be the other gender, a persistent desire to have the primary/secondary sex characteristics of the other gender, or the desire to get rid of one’s own primary/secondary sex characteristics. Interestingly, the diagnosis expands to people who feel they have an alternative gender. We are in the realm of a gender spectrum as opposed to a gender binary. The DSM-5 diagnosis adds a post-transition specifier for people who are living full-time as the desired gender (with or without legal sanction of the gender change). This ensures treatment access for individuals who continue to undergo hormone therapy, related surgery, or psychotherapy or counseling to support their gender transition. Gender dysphoria now has its own chapter in DSM-5 and is separated from sexual dysfunctions and paraphilic disorders.

What about treatment? WPATH has issued seven iterations of the standards of care. The most recent one was in 2011, Number 7, which is used worldwide. You are probably not very familiar with it; however, the VA uses it. It is a flexible guideline that seeks an approach of harm reduction to help people find a lasting well-being. Many of you may be familiar with the old standard where people went through psychotherapy. That is an outdated model. The psychotherapy approach was problematic because it corrupted the therapy since trans people would develop trans narratives. Therefore, the psychotherapy was not a true psychotherapy. It also put the psychotherapist in the role of being a gatekeeper, which was problematic. This is one of the

reasons I think trans people distrust psychiatrists, and we need to try to regain that trust.

WPATH promotes an informed consent process that has replaced the old approach. I think both these processes have their advantages and disadvantages and can be problematic. The informed consent process is one where a person goes to a clinic; hopefully it is a clinic that specializes in screening people who wish to proceed with hormone therapy. The screening process is used to access hormone therapy, not surgery. I think the word “informed” consent is key. How informed is the patient? You want to make sure the patient is informed about what they are about to go through. I have had experiences where I have been concerned about patients who have gone through the informed consent process. I have brought this up with one of the clinics in my area because I am on their quality assurance board. I said, “I have a patient who suffers from anxiety, and you did not ask him about his anxiety problem. That should not happen.” The informed consent form has many details for people to review and answer. For some reason, with this particular patient, his anxiety was missed. You can appreciate how that concerned me. I felt confident about him going through hormone therapy, so I was not too concerned, but he was given what seemed like a high dose, and then he had several days of feeling anxious. I was worried about the monitoring process.

I think the informed consent has to be truly informed consent. I am not so sure that it is all of the time. This is an area where the more we know, the more we can help make sure our patients are giving informed consent, even if we are not the one signing. Even if we are not performing the evaluation, we can help the patient, and make sure that they are informed about what they are about to do.

The standard of care today is the medical and surgical transition, which can include hormone blockers and cross-sex hormones. The most common surgeries are chest surgery for both transmen and transwomen and genital surgery. There are also many different forms of non-medical social transition techniques people can use such as voice training, changing their style of dress, changing their name, changing their pronoun, changing their identity marker on their identification cards, etc.

What is important when you are working with people going through transition? These are some of the things that I think deserve attention. What is the progression of your patient’s identity? Do they have a narrative? Is there a role for you to help them construct that narrative or become aware of what their narrative is, especially if this is something that they have not taken the time to think about? I believe this can be very helpful. The age of the person when they come out or when they transition is also crucial. People have different considerations at different stages in life. You can imagine someone at age 20 versus someone at age 50 having a very different life, pro-

fession, and family dynamic. You can play an important role in helping them consider these areas of their lives. I worry about people who go through transition without addressing and thinking about these issues.

Trauma is a big problem for trans people. You all know a great deal about trauma. You want to look for any past and recent trauma in their history. Certainly, if they are in the military, you want to look for trauma. Gender trauma is important to consider. Gender trauma is something that you may not have thought of before, but going back to an early age, people may be suffering from forms of gender trauma. I also add psychiatric trauma to the list because I think psychiatrists can cause a great deal of trauma if we try to talk young patients out of their identity. Let your patients know that you are aware of potential denial and stigma in their history. Let them know that you are not interested in re-traumatizing them, and be sensitive to moments when you might be re-traumatizing them. I had my own experience with an analyst that was traumatizing so I am quite sensitive to this particular point.

If a patient is going through transition, you want to be there to help them think about the process and what they are facing next. If a person is taking hormones or they have surgery, their body is changing. They may be feeling different. Some of how they are feeling could be linked to the hormonal effect, but many times it has a psychological component as well. Some people may feel better about themselves. Sometimes people may feel worse because their transition is not going the way they wanted or anticipated. Paying attention to what is going well and what is difficult can be very helpful because you want to help patients move through the joys of their transition as well as the disappointments.

Substance abuse, depression, anxiety, and suicidality are also issues for trans people. Interpersonal issues are very important. The ability to cope with interpersonal contact might improve, but it also might be strained, especially if a person is transitioning around people who are not accepting. Assess their personality traits, both adaptive and maladaptive, and help them form more adaptive coping mechanisms. Look for resilience. I would imagine trans people in a military setting would be very resilient for both being in the military and being trans.

When you are working with someone who is transitioning you may be in a position to evaluate them for surgery. You are probably not doing this right now, but this could be a consideration for you in the future if any of you go into private practice. You will need special training, and you will want to be in a position to liaison with the medical team to manage any co-morbid illnesses. If a person has another psychiatric diagnosis, in addition to gender dysphoria that does not rule out the option of hormones or surgery, but you want to make sure the illness is well managed. Pay attention to the relative safety and efficacy of their transition plan, of their coming out, etc., and

keep in mind that the time frame is going to be individual dependent. Some people may want to move through the process quickly and others may take many years. We talked about the risks of coming out and how that might affect professional, personal, and family life. You want to look for areas of support. We know that support promotes good outcomes. The role of psychotherapy is to support, not coerce, and to provide open exploration, not manufactured narratives.

Psychiatrists always want to know what effect hormones will have on their patients. For the most part, studies show documented positive changes when people go through this process, but not everyone has a positive experience so you want to stay alert. There are emotional changes that may occur with testosterone or estrogen, but the changes are likely to be subtle and congruent with pre-treatment personality. There can be an increased risk for hypomania, manic, and psychotic symptoms in female-to-male transmen who are taking supraphysiological testosterone and who also have an underlying diagnosis. This is why it is so important to have a good internist or endocrinologist onboard treating and monitoring patients on hormone therapy. It is important to monitor their psychiatric symptoms for any exacerbation and to check their hormonal levels to see if there is any correlation. F-to-M men often experience increased libido with testosterone. Some people experience increased aggression or agitation. You can see decreased libido in M-to-F transwomen on hormones, or sometimes increased libido thought to be due to the psychological affirmation of the transition. There are also rare cases of psychosis in transwomen who suddenly stop hormones. There are reports of depression at the start of hormones in transwomen and some reports of decompensation of Axis I disorders with the start of testosterone.

What about some of the surgeries? Female-to-male “top” surgery is a double mastectomy and no hormones are required. Male-to-female and female-to-male genital surgery usually requires approximately one year on hormones, depending on the person. The complications for chest surgery are minimal, with a two to four-week recovery time. Genital surgery is much more complicated. For transwomen, it can include orchiectomy, penectomy, and vaginoplasty. Genital recovery can be three months, but may include a lifelong commitment to dilating the neo-vagina, which is important to assess in your patients. For the most part, female-to-male people do not have a phalloplasty because the technology is not advanced enough. That could change in the future. In a one year period, it is estimated that less than 2% of transgender service members would seek genital surgery if given the opportunity. I will not delve into this, but if you are assessing someone, you may be assessing them for hormone therapy as well as surgery. You want to look for the diagnosis. See if they have the diagnosis. You want to see if the person can give informed consent, and you want to see if there are any active

psychiatric reasons that they could not go through with the process. If they decide to proceed, then you want to work to help them stabilize. You also should assess for potential sexual function and anticipated changes. This is an area that is missed by many doctors. Is the patient aware of what it means to have a penectomy and vaginoplasty and how that will change their sexuality? Is it going to change their sexuality? I would try to have these conversations with your patients early on to anticipate any problems.

I want to spend several minutes talking about my personal experience. I am a 43-year-old transman, a psychiatrist, and a candidate in psychoanalysis. I came out when I was 40 years old, after I began my psychoanalytic training. I was working as a fellow in the psychiatric emergency room at Columbia University. I began hormones at age 40, and had surgery when I was forty-two. Growing up, I was always considered a tomboy, but as a child I did not feel distressed. I did fairly well. I was not preoccupied with gender, although now that I have been in analysis for seven years and have had time to look back, I think I probably was much more distressed than I realized. In high school, I tried hard to be a typical girl and I considered myself to be straight. In my last years of college I came out as gay. In my twenties I started cutting my hair which had been long. I became more butch-identified and I felt much more comfortable. I lived pretty comfortably that way for about two decades and I went through medical school. You all know what medical school is like. My head was buried in the sand, and I was busy learning medicine. After medical school, I began a psychiatry residency. I tried to advocate for LGBT people. I found that somewhat stressful, but I did a little bit of it here and there. My interactions with patients became more and more uncomfortable.

At the time, I was in my own psychotherapy so I began talking more about my gender conflicts. I really did not want to be trans so when I came out it was a big struggle for me. I became depressed and hit a bottom point, which has actually been interesting for me now, working with trans people, because I feel very sensitive to some of the struggles that they have. It has been quite helpful for me to have had that experience. I had a break with my psychotherapist, who had become my psychoanalyst, because I began talking about wanting to transition. My analyst thought I was moving too fast and he wanted me to slow down. I was about to turn 40, and I had a daughter who is now five. I did not want to go slowly. I went to another psychoanalyst in New York. Over a period of a summer I decided to leave my analyst. I had a supervisor in my training who became very anxious about my transition and recommended that I go on a leave of absence. My analytic institute had unilaterally told me I was going to take a leave of absence. At that point, I put my foot down and said that is not going to happen, and I received a great deal of support from other people in my institute. That time period was filled

with tense conflict, but the tension died down, wiser minds prevailed, and I stayed on. I have stayed there, but it was a traumatic experience for me, and periodically I experience the trauma over again. Ultimately, though, I found a new analyst, a new supervisor, and I am now in my fourth year.

I came out when I was working in the psychiatric emergency room. I received a great deal of support from the department of psychiatry so there was a strange experience of receiving support from the department but not from my institute. In a way, that describes some of the tension between modern psychiatry and psychoanalysis. Even though I very much affiliate with psychoanalysis, there is a strange matrix that I have been in for the past few years. I am doing well now. I am on the faculty at Columbia and I have a full practice. I came out to many of my patients when I transitioned. I had to do that. I had about 30 patients and that went very well, though I was quite worried about it. I did well with my family. My partner and I are married. We have a 5-year-old, and that is going well, with certain bumps and problems along the way, as you might imagine. I did not anticipate that this would become one of my professional focuses, but it has, and I am glad that I am able to speak to audiences about this topic because I think it is very important.

Psychiatric Concerns in Evaluating Low Back Pain

*David E. Gwinn, MD
CDR, MC, USN*

I am honored to be here and a bit amused that Dr. Wain invited an orthopaedic surgeon to talk “psychiatry” to a room full of psychiatrists. I see patients with back pain on a consistent basis so in that way, perhaps, my experience will add to the symposium. I will discuss the psychological aspect of low back pain from a spine surgeon’s perspective. My objectives are to highlight the psychiatric diagnoses that occur with and/or contribute to low back pain presentations, to discuss some diagnostic tools, including heuristic models to screen for psychiatric disorders in patients with low back pain, and to develop an understanding of some psychiatric interventions to maximize outcomes for both surgical and non-surgical patients with low back pain.

As student and resident trainees we are taught the importance of evaluating patients holistically to consider the biological, psychological, and social aspects of patients’ presentations when developing a treatment plan. As surgical trainees, whether an orthopaedic surgeon or a neurosurgeon, we are focused on the biological presentation, learning the surgical indications, figuring out what patients need surgery, and why. It takes quite a few years of practice and experience to begin to understand how important psychosocial considerations are. For an orthopaedic surgeon low back pain is the signature complaint to study when trying to understand the interactions between the biological, psychological, and social aspects of patient care. That is because low back pain is often a non-organic symptom and it is such a common symptom.

When I was a spine surgery fellow at the Cleveland Clinic, I was in clinic with my favorite staff member, Dr. Gordon Bell. We had a patient with a lumbar degenerative spondylolisthesis with neurogenic claudication. He had failed three months of physical therapy, activity modification, nonsteroidal anti-inflammatories, and epidural steroid injections. The patient was not a

smoker, he was not seeking workmen's compensation, and he was not obese. We talked to the patient and looked at his films. As was his usual custom, Dr. Bell took me outside the office and asked, "Dave, what do you think?" I said, "There is no doubt about it. This is a rock solid surgical indication. The patient has met all his pre-operative requirements. I think we should book him for a fusion and a decompression." Dr. Bell said, "I agree he has rock solid surgical indications, but I would not operate on this patient." I asked why not. I was completely stunned. He said, "There is something strange about him. He is not the kind of man I would have at my dinner table, and I have the choice of whether or not to operate on this man. I do not know what it is, but there is something about him." Dr. Bell had performed his own psychiatric evaluation of the patient heuristically, based on his experience. Because I was so ingrained in the biological aspect of spine care, I had not considered the psychosocial evaluation in ways that I do now.

This vignette encapsulates so much of what we will discuss today. It shows that surgeons have choices, even in the face of rock solid, biologically sound indications for surgery, based on considerations of psychosocial factors in a patient. This story highlights the fact that low back pain, with hard and fast surgical indications, is even more difficult to manage for the medical system. It shows how experience can, as Malcolm Gladwell discusses in *Blink*, allow surgeons to thin-slice a patient during a brief encounter. Gladwell describes thin-slicing as cognitive intuition, or the idea that the sum of our experiences, education, and common sense can rapidly lead us to a fairly accurate assessment of an interaction, especially within our subject matter expertise.

Thin-slicing is what Dr. Bell was doing and that is what I have learned to do over time. In large part our intuition as physicians has improved with the emergence of the biopsychosocial model of back pain, which was described by Gordon Waddell in 1987. This model can be expanded to include any chronic pain. Prior to the psychosocial model we used a reductionist theory where physicians believed that physical complaints, such as back pain, were biologically mediated, and that psychiatry had their psychiatrically mediated disorders, and never the twain shall meet. If you look at the surgical outcomes for back pain, particularly prior to the biopsychosocial model, they were uncommonly poor compared to many of the other diagnoses that surgeons see.

I will briefly describe the biopsychosocial model and discuss the individual components that I, as a spine surgeon, use when evaluating a patient. The biological component evaluation of a patient presenting with back pain includes a thorough neurologic exam, thorough musculoskeletal exam, and a review of radiographic images. In the majority of patients that I see with low back pain, there is a paucity of organic findings and many of them are non-specific. In those cases, as spine surgeons, we usually refer the patient back

to physical medicine or physical therapy for routine non-operative management and we are happy to move them out of our office. This is not the best approach for the care of these patients unless a multi-disciplinary team of occupational therapists, cognitive behavioral therapists, psychiatrists, and pain management doctors are involved in the non-operative care.

In cases where objective findings do lend themselves to solid surgical indications, surgeons still have to consider the psychosocial aspects of the patient care because these aspects potentially have the greatest impact on patient outcomes, whether the patients are surgical candidates or not. This is a fact that I, and I am sure many other spine surgeons eager to cure a patient who has a rock solid surgical indication, have learned the hard way. The literature supports this assertion. Patient satisfaction and objective functional outcomes are significantly denigrated by the presence of emotional distress, whether psychologically or socially induced, as well as in certain personality types. This is true for all types of spine surgery including degenerative disc disease, disc herniation, spinal stenosis, instability, and deformity. This is true across the board for almost all orthopaedic surgeries, and I would imagine all surgeries in general.

Typically it does not matter if the distress is from psychological issues, such as anxiety or depression, or social issues, such as family dysfunction or a loss of work, particularly if the patient has fear avoidance behaviors or traits that indicate a somatoform component to their presentation. As you all know, somatoform disorders are defined as physical symptoms initiated by emotional distress. Back pain, particularly in males, and pelvic pain in females are well studied somatoform symptoms. The signature traits that are associated with poor outcomes in these patients and in these disorders include pain, catastrophizing, and fear avoidance beliefs. In my experience, most surgeons glean this information from the history and physical portion of the exam during a patient interaction. This is the thin-slicing that we do when we are forming our overall decision. I want to briefly break down the process during the history and physical, particularly with regard to yellow flags.

All of us know the term red flags, and since this room is full of psychiatrists you probably know the term yellow flags. Red flags are the things that worry us about presentation of back pain that we think may be an urgent or emergent indication for surgery. Yellow flags are the biological, psychological, and social considerations that can be identified through the history and physical exam that alert us to the fact that there is emotional distress present, and perhaps a component of the pain is somatoform.

Patients who catastrophize believe their pain is far worse than it really is. For example, they walk into the office with a smile and then describe their pain level as nine out of ten. These patients may also correlate their excessive

pain to an irrational inability to perform daily tasks or work. Fear avoidance beliefs take the catastrophizing component and patients avoid simple, everyday work activities because of anxiety. They may have histrionic descriptions or dramatic, sometimes emotional descriptions of pain. Often there is a history of an exacerbating event causing catastrophic loss of function, like leaning over and picking something up. Patients might say, “I had to just lie on the floor for an hour because it hurt so bad.” I am always on alert when patients have seen multiple surgeons. Seeking a second opinion is not uncommon, but seeing three, four, or five surgeons can be a sign of drug-seeking behavior. When you make an assertion to the patient they say, “Yes, but my other doctor said this. Why are you saying this?”

Those types of things, to me, are yellow flags that indicate possible psychiatric problems. Other yellow flags are somatoform symptoms such as forehead headaches, muscle twitching, sweating, and nausea. These are symptoms that do not usually occur with back pain presentation. Other non-organic complaints such as my entire back hurts, my leg goes numb, I get paralyzed, are also yellow flags. I ask all my patients what their pain is on a scale of 1 to 10, what it is at its worst, what it is on a regular daily basis, and what exacerbates their pain. Reports of pain that are 9 out of 10 every day, all day long, raise a big yellow flag for me. Even reports of 7 or 8 would raise a yellow flag.

Addictive behavior, such as prolonged use of opioid analgesics, is another yellow flag. From a social history it is important to identify self-destructive behaviors such as smoking or excessive alcohol/substance abuse. I also evaluate patient’s social support, and ask about their family network, spousal problems, divorce, childcare issues, and deaths in the family. From a work history, especially in the military, I worry about command-directed referrals. Rank/age discrepancies are always yellow flags for me. Any voiced negative opinions about leadership or unit morale, fear of patient’s ability to perform their job, or discussion of disability benefits also raise yellow flags. In the non-active duty population we have some workmen’s compensation issues.

On physical examination, biological yellow flags include obesity, poor diabetes control, and smoking. I also evaluate any secondary gain or malingering behaviors such as excessive limping or poor effort on muscle testing. Waddell’s signs are a group of physical signs that may indicate non-organic or psychological components to chronic low back pain. They may also be used to detect malingering in patients with back pain. For example, a patient limps into my office and then I see him 30 minutes later on Main Street walking around without a limp. Using Waddell’s signs can help distinguish malingering behaviors from somatoform behaviors.

There are many validated instruments that support these assertions. The stress and risk assessment method is a combination of the Modified Somat-

ic Perception Questionnaire (MSPQ) and the Zung Depression Scale. The MSPQ consists of 13 questions about patients' symptoms that all tend to be somatoform type complaints. The Fear Avoidance Belief Questionnaire, which was developed by Waddell, specifically quantifies the somatoform trait of fear avoidance. The SF-36, the Pain Disability Questionnaire, the Beck Depression Inventory, and the Minnesota Multiphasic Personality Inventory (MMPI) have been validated and are reliable. Some of these instruments are easy to implement in a clinical setting. The only one that I use on a regular basis is the MMPI with a psychological interview prior to deciding whether to schedule patients for surgery. This is done through referral to the Department of Psychiatry. However, that is probably not enough. I probably need to do more in clinic to screen patients for emotional distress, more than my heuristic abilities allow.

Almost everything I have talked about has an implication on outcomes for patients with back pain, whether they have surgery or not. Patients that smoke who go through a smoking cessation program and quit smoking have better outcomes for back pain, whether treatment is surgical or non-surgical. Patients with anxiety disorders and somatoform traits or fear avoidance beliefs who go through psychotherapy have better outcomes after their therapy. You can modify these traits in a patient and improve patient outcomes. Cognitive behavioral therapy is useful in patients with fear avoidance beliefs. A multi-disciplinary approach utilizing cognitive behavioral therapists, psychiatrists, physical therapists, and occupational therapists is also helpful. Surgeons sometimes criticize therapeutic approaches in the literature because they are time-consuming, involve multiple providers, in most cases are unreasonable in the civilian world, and are often not reimbursed.

The environment is changing and outcomes-based reimbursement is around the corner. In the military, where we have a no-fault workers' compensation model and patients get paid even when they are not working and in rehabilitation, it is not unreasonable to dedicate the time and resources to psychosocial rehabilitation. If it returns patients back to duty faster, if it prevents future recurrence of back pain and time lost from duty, and if it improves the outcomes of those that need surgery, then psychosocial rehabilitation is worth it. Unfortunately we have not dedicated the people, the time, or the money towards the back pain epidemic and it truly is an epidemic, particularly in the military.

Currently, back pain is the leading cause of disability in the world. It is the most common reason to seek medical care in the military, comprising 6% of all healthcare visits. Treatment and the consequences of back pain cost the Department of Defense (DoD) \$19 billion per year, which is one third of the DoD healthcare budget. The impetus for reform and research is readily apparent, even to the most obtuse observer.

In my earlier vignette, I discussed Dr. Bell's luxury of denying surgery to a patient that he thin-sliced as having a poor outcome, but I did not mention that he never referred the patient to anyone else. The patient probably went to another spine surgeon who saw rock solid indication for surgery and operated on him. The patient probably had a less than ideal outcome because of what Dr. Bell saw in him. We have an opportunity to do a better job than that. We owe it to our military members, our taxpayers, and the mission to provide more comprehensive treatment.

My colleague, Dr. Neal, does not need to see the patient I have denied for psychosocial issues before those issues have been addressed. It wastes his time, it wastes the patient's time, and it wastes the military's time and money. We have research funding that may be available soon. If we cannot get our leadership to buy into a program that incorporates a biopsychosocial model in the near future, I think it is something that we should all discuss in a multi-disciplinary manner in order to create a multi-disciplinary approach to what is an incredibly important aspect of medical care within the military.

Critical Role of Psychiatric Evaluation and Support in Orthopaedic Trauma and Amputee Care

*Benjamin Potter, MD
LTC, MC, USA*

In a trauma scenario patients do not choose when their trauma occurs. This is different from many orthopaedic scenarios where the procedures we perform are elective. Orthopaedic trauma is unexpected. It is always life changing, and occasionally it is life devastating. Any pre and post morbid psychiatric issues can have a profound impact on patient outcomes and recovery from trauma. Because we are not scheduling the car accident or the improvised explosive device (IED), we have little impact retrospectively on a patient's pre-morbid psychiatric condition, but there is a great deal that we can do to improve psychosocial, medical, and functional outcomes following a traumatic event.

By the time I see a patient they have sustained some sort of physical injury to their pelvis or extremities. They are dealing with a great deal of pain following what orthopaedic surgeons would call high energy trauma. The rates of moderate to severe disability are as high as 40–50 percent. Some patients recover and are minimally disabled or not disabled at all. Other patients are lucky to survive. Surgeons say, “Hey, we saved that leg. Your fracture healed. Your soft tissues look okay. You must be doing all right.” If you look at survey measurements patients are actually moderately to severely disabled.

Certainly within the military, with the Medical Evaluation Board system, and definitely in the civilian sector, the ability to return to productive employment is an important issue. The inability to return to work leads to decreased quality of life and the potential for depression, even if a patient did not have depression or any psychiatric diagnoses before their injury. First-episode depression comes on relatively early after an injury because patients are sad about what happened to them, and they may also be bitter and angry about the trauma. I think an internal versus an external locus of causality can have a big impact on patients' perspectives and their coping

mechanisms. Unfortunately depression often lingers, even when a patient's condition improves. I do not need to tell anybody in this room that depression is difficult in its own right but what I know, as an orthopaedist, is that it negatively impacts my patients' outcomes. Depression increases patients' pain complaints, both when subjectively and objectively scored, increases narcotic use, and delays functional recovery.

Dr. Gwinn mentioned pain catastrophizing, which is a tendency to focus on, ruminate about, or magnify pain. If you combine that with fear of movement and depression, you create the setting for the fear avoidance model. It fits in nicely with the biopsychosocial model that Dr. Gwinn spoke about. Certainly, someone that just broke their leg or who is in the immediate post-operative period will have pain at rest, and that type of pain will likely get worse with movement. But if you are weeks or months out from injury, most things do not hurt when you are not physically insulting them. It is a big red flag if a patient complains of pain at rest. Pain at rest can lead to both chronic pain and a fear of movement that is a big barrier to both physical therapy and occupational therapy outcomes, and to dedication, motivation, participation, and improved physical health.

Resilience is defined, according to Wikipedia, as the ability of material to absorb energy when it is deformed elastically and to release that energy upon unloading. I think that is a good definition of resilience in people as well. Simply said, resilience refers to our ability to adapt to change. There is an evolving body of literature that suggests resilience can be learned and that people learn it in different ways. What is still somewhat controversial or a matter of debate in the medical literature is whether resilience can be taught. I think the jury is still out on whether or not you can teach someone resilience, with or without their participation.

The lower extremity assessment project (LEAP) was a prospective observational trial of patients with severe limb-threatening lower extremity injuries conducted at eight Level 1 trauma centers in the United States. The study enrolled 601 patients and followed them at one year, two years, and seven years out. Although there were some good surgical findings from the study, the study showed that the biggest determinants of patient outcomes were not in the surgeon's control. The study showed that self-efficacy and social support were critical. Both can be modified moving forward.

Posttraumatic stress disorder (PTSD) and traumatic brain injury (TBI) have different trajectories for different people. TBI is important because it can impair the cognition of patients. TBI can affect a patient's ability to make decisions, their ability to participate in therapy, and can affect their competence to make decisions about late amputations. Recently, I read that PTSD is often worse in patients that were not exposed to direct trauma. A soldier goes to Afghanistan and hears about people getting blown up. He is scared

every day, but he never shoots anybody or gets shot. Soldiers with these experiences tend to struggle the most with recovery from PTSD.

Cognitive behavioral therapy (CBT) is effective for patients with pain catastrophizing and fear of movement. Dr. Wain and I recently spoke at the American Psychiatric Association (APA) symposium in Toronto, and I heard him say that cognitive behavioral therapy never hurt anybody, so it is a great thing to try. CBT is a relatively low cost intervention. You have an opportunity to intervene by helping patients to better conceptualize their deficits, their pain, and their situation in life. Intervention can have a profound impact.

I will now transition to discussion of psychiatric issues in limb salvage versus limb amputation. At the time of your initial injury, we put your life before your limb. We try to err on the side of limb salvage whenever possible and preserve options for the upstream surgeons when patients are coming back from the combat theater. The problem that we often encounter, especially with the broad zone of injury that you see with an IED, for example, is that the patients who are not very good candidates for limb salvage often are not very good candidates for amputation. If you have a patient who is not a good candidate for either, we err on the side of salvage. It is important to discuss limbs at risk candidly with patients and family very early on. I cannot tell you how many times I have had patients come back from Bagram or Kandahar or Landstuhl where a doctor or nurse told the patient, "We're going to be able to put you back together. You'll be good as new." It is important to not over-promise and to let patients know that they have a long road ahead of them, whichever road they travel, so they can manage expectations early on.

We have defined delayed and late amputation as greater than three months (or 12 weeks) from injury. The time frame is completely arbitrary, but we had to draw a line in the sand somewhere. Limb salvage patients who are more complex are still healing and in recovery at that point and often are not finished with surgery. Still, we have a pretty good idea of where things are headed and where the pitfalls are going to be and if things are working out. Consequently, many of what we call delayed amputations are not necessarily elective. They are complications of limb salvage. "We tried to save your leg. You have an intractable infection; your flap died; it didn't work." We try to use the terms delayed or late amputations because some patients do not feel they had a choice. They did not elect to have surgery and they wish they had not sustained an injury. The surgery is only elective in the sense that the amputation was not done in the middle of the night for necrotizing fasciitis. The amputation was a scheduled procedure.

In my clinic, all too often, I see someone who comes back six months, one year, or as late as five years from injury and says, "Thanks for saving my leg, Doc. Now cut it off." Why on earth would a person say that? You have

a salvaged limb, or usually a salvageable limb, so why would you ask for an amputation? Non-neurogenic pain is one good reason. Certainly motor function is more important than sensation, but loss of sensation, especially on the bottom of the foot or the palm of the hand, is very difficult and creates functional impediments. Sometimes patients will have a list of six or seven complaints and say, "At the end of the day, I just want more function." It is not surprising that chronic infection and neurogenic pain are also frequently on the list of patient complaints. Despite our best efforts, sometimes bones heal crooked or the bone does not heal at all. The patient may ask for an amputation because you have something else to offer them to get rid of their infection or to make the bone heal. But in its truest sense there are many complications of bone salvage that are driving the boat

Why not amputate? Amputation is widely maligned as an easy thing. Anybody can do it. It is an ablative procedure, and it is often viewed as a failure option. In reality, amputation is and should be viewed as a complicated reconstructive procedure. When you amputate, you are removing a diseased or injured body part and restoring the optimal possible function. If you are amputating for appropriate medical indications, with appropriate psychiatric screening, you can absolutely help somebody by removing a limb.

Why would you not want to amputate? There are several considerations. We have better bracing alternatives now. Over the last four or five years, researchers in San Antonio developed the Intrepid Dynamic Exoskeletal Orthosis (IDEO). We have this technology at WRNMMC and in San Diego as well. The IDEO is an offloading brace. It is basically a transtibial amputation socket with the bottom cut out so a leg can go through it. It can relieve 30-50% of the pressure on the foot if you have heel pain or plantar neuropathy or similar problems. The IDEO has the capacity to store some energy so patients get some feedback and push-off, similar to wearing a prosthesis. If you have an ankle fusion or your calf muscles do not work or you have foot drop, the IDEO can restore some function. What is another reason not to amputate? Amputation is forever. There are a few hand transplants done each year, but we do not have the technology to overcome many of the obstacles for lower extremity transplants.

Patients with neurogenic pain have to be evaluated carefully. If you have chronic regional pain syndrome or reflex sympathetic dystrophy syndrome (RSD), there is some potential for improvement with an amputation. Sometimes RSD goes away on its own but sometimes it recurs. You cannot walk very much with RSD in your foot, but you cannot walk at all with RSD in a residual limb if you cannot tolerate a socket. You would make somebody worse if severe neurogenic pain recurred in their residual limb. Separate from that, patients can also experience phantom pain after an amputation, which can be substantially debilitating.

Secondary gain is a poor reason to perform medical procedures. Unfortunately, the perceived or desired gains are often not realized. What are the psychiatric confounders? We have already discussed a few of them — depression, pain catastrophizing, and insufficient patient resilience. It is a serious life event to go through an amputation, even when you have already survived the trauma.

How do we evaluate patients who request amputations? Our practice at Walter Reed is strictly voluntary, but it is designed to protect both the surgeon and the patient. We require an initial evaluation of the patient by two orthopaedic surgeons, typically the treating surgeon or the person that the patient came to asking for the amputation. Patients also undergo a dedicated psychiatric evaluation. Often my patients will say, “I just saw psych last week. They upped my Cymbalta, or whatever.” I say, “No, I want you to see Dr. Wain or Dr. Prieto, somebody who does evaluations like this all the time, who is going to talk to you for hours and knows the right questions to ask, and that can really drill down a little deeper. I want more than just tweaking an antidepressant or an anti-anxiety medication.” Most patients will also have a limb salvage and/or amputee peer visit. They will talk to physical therapy, psychiatry, and prosthetics so they can get an idea of what to expect. Amputation is not a two-hour procedure to a better life. Amputation is a two-hour procedure followed by months and months of rehabilitation. It can be a full-time job to recover. The answer is not always yes when patients ask for an amputation.

What am I looking for in a psychiatric evaluation? Competence is first and foremost. Is the patient able to make a competent decision? This is rarely an issue, but we have had a few patients where it was. Perhaps the patient has had a TBI and you are not sure if they are ready to make this kind of decision. Is the patient seeking secondary gains? Fortunately this has been remedied, but even the relatively small payments that soldiers get from TSGLI (Traumatic Servicemembers’ Group Life Insurance) used to be higher for amputation than limb salvage at the beginning of the conflicts. I worry about a young, short sighted 22-year-old private saying, “I’m kind of on the fence anyway. For another \$10,000 I’ll just cut my leg off.” That money goes away pretty fast when you spend it on a Humvee. It is helpful to have somebody looking in from the outside to give a surgeon feedback on aspects of a patient’s psychological health. I think a psychosocial and family support assessment is really important.

Dr. Wain has seen some of my patients and said, “This guy’s a mess. I would be really careful here.” He has seen other patients and said, “Really good family situation. I cannot believe his wife hasn’t left him, but she’s rock solid and things are going well. Go ahead.” What does Dr. Wain tell me? Occasionally, he will say the patient is a very good candidate for amputation

from a psychosocial perspective. He will typically say, “Yes, there are some issues, but if this is reasonable, if you feel comfortable with it, it’s okay to proceed. I don’t have any big concerns.” Sometimes patients have things to work out such as family problems, financial problems, or substance abuse and dependence issues. You are not going to make someone’s narcotic dependence better by cutting off their leg. It is a bit counterintuitive, but if you can wean someone off narcotics going into surgery, you can sometimes avoid narcotics altogether, and certainly start back at a lower dosage when they do have an amputation. Sometimes Dr. Wain says, “No way.” I am proud to say that we typically see eye-to-eye on the “no way” patients, but I send them to Dr. Wain so that I am not the only one saying no. The entire team is involved with the decision, and we are able to say to the patient that we all said no.

What is our experience? Approximately 15% of the 2,250 amputations from the conflicts are late amputations. Most of these are transtibial and a few have been higher up. Amputation is rare in the upper extremity. We have had eight or ten upper extremity amputations. This most often happens when a person has a painful, stiff, useless hand that they think is a biologic paperweight, and they want to be able to do more. Our orthopaedic dogma is typically that a bad hand is better than an amputation but a bad foot is not. However, sometimes the hand is bad enough that you are better off with an amputation and patients realize that. The few upper extremity amputations that I have seen or done were very reasonable and pragmatic in their approach. These patients raised fewer red flags than some of our lower extremity patients. What are the outcomes? Generally, they are good. I think careful patient selection is critical.

In summary, good results are achievable with limb amputation. We all see our poster children running around here. We have patients participating in the Special Olympics, people have returned to duty, returned to theater, and returned to the Special Forces after limb loss, but there is no guarantee of success. A patient’s function may not be as good as he thought it was going to be when he asked for the amputation. You hate to do something to a patient that is theoretically disfiguring and definitely permanent and have them regret their choice. Again, patient selection is critical, as is the team approach, in order to evaluate patients from a psychosocial perspective and from a surgical perspective.

WRNMMC Complex Spine Program: A Multidisciplinary Approach to the Surgical Patient

*Christopher J. Neal, MD
CDR, MC, USN*

As a neurosurgeon I primarily perform spine surgery. Today I will discuss our multidisciplinary approach to patients with spinal deformities at Walter Reed National Medical Center (WRNMMC). This is a project that we began almost four years ago.

What does it mean, from a spine surgeon perspective, to bring in a multidisciplinary approach? What are the components that we have used, added, changed, and rejected? What are the benefits that surgeons gain from the perspective of mental health professionals in dealing with patients with spinal deformities? We know that, especially in the military, multidisciplinary groups are like building sand castles. If maintenance is not consistent, the tide will come in and wash them away. If you are deployed, you have to return and build it back up. This process is constantly evolving, which I think is good because each year the process is better.

In 2011, we introduced the multidisciplinary approach with a basic question: how can we improve the outcomes of patients undergoing spinal deformity surgery? The model comes from Northwestern University, where I did my fellowship. Complex spine surgery was defined as having surgery longer than six hours with more than six levels of surgery. We were initially focused on medical risk stratification, post-operative ICU care, and taking care of inter-operative issues. We quickly realized that we could do more and that we should do more for these patients.

Here is an example of a typical patient. The patient had many complex problems. He had multiple surgeries prior to his admission to us, he had narcotic addiction and was frequently admitted to the hospital for narcotic overdoses, and he was depressed, we think, due to chronic pain. He was not improving. We know surgery cannot treat depression or anxiety, nor can surgery treat bipolar disorder, but surgery can help with pain. If we can identify

the pain and what is causing it, and fix it, then I think we can begin to make some improvements in patients' lives. This is extremely simplistic, but I have seen this time and time again in clinic, where a patient has a spinal disorder, whether it is scoliosis, kyphosis, or spondylolisthesis. Some condition is pinching a nerve and the patient has pain. Was the patient's depression or anxiety, or fill that blank in with whatever you want, there before? Did it begin with the chronic pain? The patient is not getting better. Their lifestyle is limited. They cannot do the activities they enjoy and they are sitting at home all the time. They may begin drinking and they are typically using narcotics. They are in a downward spiral. The question that we always have to ask ourselves when we see these patients is, what came first? Were these patients already severely depressed and they happened to have an X-ray that showed a spinal disorder? Or was their pain driving the process? This is hard to assess and it takes people a lot smarter than I am to try to figure this out.

Fortunately, in the 2011–2012 academic year, we added a mental health component to our program. What component does a patient's mental health play in pain that comes from a spinal deformity? We started looking at how we treat pain, both before, during, and after surgery, and then brought some of our anesthesiologists on board. We asked, "What can we do during surgery that will begin to make pain better?" I think that this approach changed the way that we look at a patient facing complex spine surgery. In addition to significant medical problems, there may be significant mental health comorbidities. We needed to think about co-morbidities up front. Specifically with chronic pain patients, we needed to address their issues up front otherwise we will not achieve the desired outcomes.

To put this type of surgery in perspective, patients will lose one to three liters of blood during surgery. There is significant risk of heart attack and pulmonary embolism. As patients get older, especially patients in their 70s and 80s, the complication risk approaches 100 percent. We tell patients up front, "You're going to have complication. I don't know what it is. I don't know what it's going to be, but it's going to happen." The goal of the multidisciplinary group is to figure out what the complication is going to be and head it off before it occurs. This is a quality of life surgery with life-threatening complications. This is not a surgery we schedule the day before.

The goal of spine surgery for deformity is a tradeoff. Ideally we are trading less motion for less pain. About 70% of patients get 70% reduction in their pain, but then the question we always have to ask ourselves is, what happens to the other 30 percent? One of the hardest things I have to tell patients is that it will take a year to recover from their surgery. Everybody wants the *Snickers Bar*® satisfaction. Right after surgery everyone wants to feel great. There are some spine surgeries that are like that, but surgeries to correct deformities take one year of recovery time. That is a difficult concept for people

to fully understand.

The mental health component that hit home for me was with a patient I will call Eddie. Eddie had a long-standing history of depression. He had several back surgeries and was miserable not only from back pain, but from a pinched nerve causing severe leg pain. Eddie had undergone the first stage of the surgery and was preparing for stage two. We presented his case at one of our meetings. Dr. Mrizek said, "Hold on. I think we should hold off on surgery." Why should we hold off on surgery? We had a filter in to prevent a pulmonary embolism from occurring. We had a plan for anticoagulation after surgery. His heart was clear. His lungs were good. He was ready for surgery. "Yes, but he's got a plan for how he's going to kill himself next Saturday." I had just seen Eddie the day before and talked with him. Everything seemed fine to me, perhaps because I was too focused on his X-rays or talking about the surgical plan or what was going to happen afterwards. Sometimes it takes the experience and the expertise of a Dr. Mrizek to look and dig a little deeper.

I think the delay saved Eddie's life. At a later date he had a great surgical outcome and now has less pain. Did the screws and rods treat his depression? No. Is he still being treated? Yes. Does he have less pain? Yes. Is he pain free? No, but he is better. I always ask patients two questions, usually about one year post surgery. Are you glad you had surgery, and would you do it again? Eddie said yes to both questions and he is now several years out, but I do not think that would have been the case if I had proceeded with my approach solo. It takes a team approach to assess complex patients like Eddie.

Another familiar example is the patient who is a chronic marijuana smoker. "Oh, no, Doc, I'm good. I stopped." The patient has some dementia, underlying bipolar disorder, and he is losing function in his hands. He was denied by transplant surgery service for transplant due to his underlying renal failure because he lacked the consistent mental capacity to comply with the medical regimen afterwards. What do we do with complicated patients like this man? His life expectancy for five years is pretty good, but looking ten years down the road it begins to get a little sketchy. However, he is losing hand function and he has many other problems. It takes a team approach to prepare a patient like this for surgery and to prepare him for the extensive rehabilitation afterwards. We operated on him, and four weeks out he was able to tie his shoes and button his pants. He is still smoking marijuana, but I cannot treat that problem with surgery.

How do we know if what we do really works? The key is to look at outcome measures. We have several instruments available to measure outcomes and to follow patients over time. Some examples include the Short Form-36 (SF-36), The Generalized Anxiety Disorder-7 (GAD-7), the Patient Health Questionnaire-9 (PHQ-9), and the Distress Risk Assessment Method

(DRAM). All of these instruments help us in the psychological approach to pain management.

The Pain Assessment Screening Tool and Outcomes Registry (PASTOR) is being introduced by the pain service at WRNMMC. PASTOR is a 20–30 minute survey that produces a comprehensive three-page clinician report of a patient's chronic pain. PASTOR was developed in response to the National Defense Authorization Act (NDAA) 2010 recommendations for “performance measures used to determine the effectiveness of the policy in improving pain care for beneficiaries enrolled in the military health care system.” The detailed report graphically demonstrates where and how a patient is experiencing their pain. In addition, the report contains information about three activities that the patient finds important and how pain is directly impacting their ability to perform these activities. Warnings are also included to notify the physician about key concerns such as alcohol or opioid abuse, suicide ideation, PTSD, depression, and anxiety.

I think PASTOR will be very useful to patients who are classified as complex spine patients as well as all patients who are in chronic pain. It will help clinicians assess the patient's readiness for surgery on many levels. It will also help us assess what we might do differently. For example, do we need to stop certain medications prior to surgery or come up with a different plan in the operating room because their SSRIs are going to inhibit their platelet function and therefore they will lose more blood? Can we stop the SSRI or do we just need to work faster in the operating room? There is a balance. Does the patient have enough strategic reserve to handle a complex spine surgery with a year of recovery time? Are they ready? Does the patient fully understand what it means when I tell them that I am going to cut their back open, insert screws and rods, and cut their bones? Are they ready? Sometimes we will get the answer that we want, “Okay, yes, you're ready,” but it takes a second assessment or perspective to feel confident.

How do we treat pain? I believe pain impacts the mental health of patients before surgery, during surgery, and after surgery. We focus on weaning patients from narcotics before surgery and then we plan their inter-op and post-op pain management. We rely heavily on non-narcotic medications before surgery, and during surgery we begin ketamine. We are almost ready to launch a study to see if ketamine actually helps decrease patients' post-operative narcotic usage. We continue ketamine for 24–48 hours, or even longer, depending on the patient's response.

The beautiful part about our multidisciplinary meetings is that every week or every month that we meet, we take away something new from talking to each other. Effective pain management for patients with complex spine issues takes a multidisciplinary approach. It is a group effort and we learn from each other. The multidisciplinary approach is a work in evolu-

tion, and hopefully we will continue to make improvements that will help our patients.

The Neurobiology and Emerging Therapeutics for Functioning (Conversion) Neurological Symptoms

James L. Griffith, MD

Today I will discuss patients with medically unexplained symptoms who are diagnosed with conversion disorder. This is a tricky diagnosis. Years ago, a Queen Square study showed that if you followed up with people diagnosed with conversion disorder, about 40% had degenerative diseases and other neurological diseases that were misdiagnosed. I think that has changed with imaging technology, but diagnosis is still tricky.

Conversion disorder is probably the most complex issue we deal with in psychiatry. This is mostly because a large part of the variance typically has to do with evolutionarily designed stress responses that we share with amphibians, reptiles, and other mammals. Basically, it is part of the normal nervous system. Conversion disorder has a relationship with trauma that adds some complexity, and it also has some relationship with brain injuries. People who have had brain injuries are more likely to develop conversion symptoms. I will try to explain conversion disorder so that you can take ideas and apply them to your patients.

Resilience has been discussed today. At the end of my talk I will present a case on resilience building therapy because that is what most people with conversion symptoms need. Treatment is focused on helping patients move forward and engage assertively when facing adversity instead of using avoidant coping. I often say to patients, “What we’re doing together is working to get you where you’re ready to face whatever comes down the road.”

It is mostly about what conversion is *not*, and not about what it is. All unexplained and unrelated results from imaging studies and other neurophysiological studies wind up in the same category labeled as medically unexplained. Conversion disorder winds up being a wastebasket term. It would be interesting to hear stories about patients you have all had with unexplained tremor, numbness, paralysis, or almost any symptom of the nervous system. The key piece is that the patient is honestly baffled. They are often

scared, and they are aware that despite all the willpower they can muster, they cannot control what their body is doing. This separates the diagnosis from factitious disorder where patients know what they are doing even though the motivation may be unclear, especially in cases involving malingering. I recommend not using the DSM-5 diagnosis. It is a good way to give somebody a label without getting any useful information to move forward.

In public health, conversion disorder has a large impact on health cost expenditures and on patients' suffering. Would you rather hear about a study of functional brain imaging or hear about culture? It is counterintuitive, but what turns out to be most useful is understanding the cultural piece. If you understand that, you will learn some pragmatic and useful tools. What is happening inside the brain is interesting, but it is somewhat like when your car malfunctions. You know what is not working under the hood, but you do not know what is going on with the driver or with other variables that are not described in the mechanical description.

Later, I will tell you about a case I selected because it does not have to do with trauma. A 35-year-old man, who is probably more mentally healthy than I am, developed a clicking with his fingers and toes. When I presented this case, I asked my residents whom they were going to call. You do not ask for a neurology consult for that.

Why is culture important? If you look around the world where there is a large correlation of functional neurological symptoms, not just where there is violence but where there are human rights violations, you can track this easily. Arthur Kleinman, an important figure in medical anthropology, did a great deal of his research in China. He studied the impact of the Cultural Revolution and documented detailed descriptions of what is diagnosed as neurasthenia in China. For us neurasthenia is an old term, but in China neurasthenia is regarded as a physical disease of the nervous system involving too little physical energy. People develop fatigue, sleep problems, low mood, and many other symptoms. We would say the person is depressed. The Chinese neuropsychiatrists would say the person is depressed because they have neurasthenia. What Kleinman observed is that if you treat patients with anti-depressants the neurovegetative symptoms improve, but the person's functioning does not improve. From Kleinman's studies we learned that when verbal processes for expressing distress are attenuated or suppressed, people can develop medically unexplained symptoms. Kleinman thinks of somatization as a bodily idiom of distress, basically a language or a communication of the body that speaks when you are not permitted or not able to use words to express your distress.

My close friend and colleague, Carlos Sluzki, who managed to get out of Argentina during the Dirty War by the military dictatorship that ruled from 1976-1983, wrote about the 10,000 Argentinians who disappeared

from their homes in the middle of the night. The families were told if they said anything about the disappearance they would never see their loved ones again. Sluzki documented outbreaks of physical symptoms in these families. Richard Mollica's observations with the Cambodians in lower north and east of Boston who survived Pol Pot were similar. What stood out to me was that you do not need the unconscious to play a role. People know perfectly well what is causing their distress and why they are suffering. There is no repression.

We can take a clue from this and work backwards. If somatization is a bodily idiom of distress that appears when speaking is not permitted and not possible — and it might not be possible because of political oppression, or because it would be shameful, or because if you speak openly you may hurt someone else — working back from this is fairly straightforward. You create context where it is possible to have conversations that were not possible to have safely before. We will come back to this.

I think ICD-10, by and large, has been useful. In the trauma field more people working with PTSD will use ICD-10 because an ICD-10 conversion disorder is simply somatic dissociation. It is a branch of dissociation. From the beginning, John Nemiah said conversion disorder should never have been split off in DSM-III. It is a part of a dissociation. What does this have to do with posttraumatic stress? The connection between childhood trauma and the later appearance of physical symptoms in PTSD was not known years ago. A basic piece to understand is that the brain responds to experience, not to objective events. It works like this: from your viscera, up the afferents to the vagus nerve, and from the five senses tracking down and turning medially through the temporal lobe, through the amygdala, and the basolateral nucleus, the brain picks up any emotionally salient event that may have to do with threat. We have multiple memory systems in the brain, but certainly two of the big ones are the one for narrative memory organized more around the hippocampus (explicit), and the one for emotional memory organized around the amygdala (implicit).

What is the connection with PTSD? From birth your amygdala is set to go. Some of the earliest implicit emotional memories in human life are the attachment memories which have no association with your memory. However, implicit memory codes images, body sensations, and emotional states. There is no story. There is no sense of remembrance. The amygdala is mature from birth and gets more efficient the higher the state of alarm. On the other hand, explicit memory is organized more around the hippocampus. The Circle of Papez is associated with narrative memory. Everything that I remember — coming to work today, leaving GWU, calling Mr. Obie to meet me at the security gate — is a story. It has a beginning, a middle, and an end. It is in language.

Most people do not have a system mature enough to remember things earlier than about two or three years of age. Many people have the memory of studying for an exam, getting so scared about it that you were unable to remember anything, and then failing the exam. On the other hand, with implicit memory the higher the state of arousal, the more the circulating catecholamines, the more efficient implicit memory gets, so that at the end of the day the person winds up being in a state with powerfully remembered images, emotional states, and body sensations, but with no story. These sensations come out of nowhere with subliminal cues.

In our epilepsy center we had high rates of pseudo-seizure cases for a period of time. One patient stood out. We knew the patient had an abortion. We knew that her seizure in the hospital had no seizure phenomena on the split-screen EEG. There was no other clear history, but, without telling you her whole story, there was a great deal of guilt about the abortion. There was a great deal of yearning for the pregnancy. We used a four-column checklist of date, time, situation, thoughts, feelings, and body sensations to track a seizure that happened in a drug store and occurred when the patient was walking down the aisle containing the home pregnancy kits. Had we not had the data to go back carefully to track the details, we could have missed the connection since the patient was not aware. It was completely subliminal until we talked about it. Someone with PTSD is often in a similar state. Cues set off emotions and bodily sensations that come out of nowhere, and you wind up with two big disorders that bring people in with medically unexplained symptoms. One is panic disorder, but the number one disorder is PTSD. With both disorders there are correlations with over-utilization of healthcare.

When you study large populations, you will see high rates of functional neurological symptoms in places where there is violence and other threats to safety, and also in places where there are human rights violations with silencing and suppression. When we look at populations clinically we see a significant correlation. We learned to appreciate that many soldiers in Vietnam who came home with PTSD were also individuals who had been abused in childhood.

If you go to Mark Hallett's laboratory at the National Institutes of Health (NIH), you will learn a great deal about functional symptoms. If you go to an epilepsy center, you will see many people with non-epileptic seizures. They will talk a great deal about trauma. Are they the same or are they different? I will make the case that they are different. How many people have witnessed loss of speech or a paralyzed limb as a conversion symptom? This is easy to study in the lab because your control is the other side of the bike. Generally, if you do sensory evoked potentials or motor evoked potentials, the input and the output at the elementary level is okay. What is happening is more

in the middle, with a complex analysis integration of information. If my left arm is paralyzed, we will order a neurological consultation. The neurological evaluation demonstrates that my motor functioning is intact. Neurology residents spend a great deal of time practicing the “tricky things” that will demonstrate a patient’s motor function is intact. The right side of my sensory motor cortex shows deactivation compared to the left side. On the other hand, if we go forward and look at the prefrontal cortex and the anterior cingulate, these areas show a high level of activation.

Does anybody know why your motor cortex is deactivated, but your prefrontal cortex and anterior cingulate are activated? It works like this. Some people compare it to a family therapy model. The prefrontal cortex is the executive system in the family, or the parents. The parents have to ride herd over the subcortical systems that tell you to move toward things. Your amygdala tells you to move away from things. Your ventral anterior cingulate modulates emotional responses. Much of our current thinking in psychiatry has to do with whether these regulatory systems are intact, but basically the prefrontal cortex can send down fast conducting glutamate receptors and make adjustments. When the prefrontal cortex is deactivating the sensory motor cortex, the person is not able to move the limb on the opposite side of the body. The ventral anterior cingulate is an interesting area because it is mainly a conflict detector. Within the brain, you always have to worry about crosstalk between information streams. Let us say that there is an area in this building that is supposed to be for officers and someone who is not an officer enters the area. How fast would that be detected? You can be sure that the people who do the detecting will get an activation of the anterior cingulate because this is an area that takes the virtual images your prefrontal cortex uses to determine what reality should be. If the information streams do not match, the anterior cingulate picks up the conflict and signals the prefrontal cortex to fix it.

In terms of psychogenic paralysis there are other activations of the limbic forebrain. The limbic areas are sending information streams that the prefrontal cortex would say is expectable reality. If the information streams are not fitting well the fix is to shut down the motor cortex. All of this makes good sense. Interestingly, transcranial magnetic stimulation (TMS) generates small electric currents that can reverse this process. In people with motor paralysis as a conversion symptom, often you can reverse the paralysis easily with TMS over the area of the motor cortex.

What about psychogenic movement disorder? After the physician completes all the appropriate examinations, if you have a physician skilled in movement disorder, they can demonstrate that the movements are not caused by a neurological condition. As you might expect, there are no functioning brain images because you cannot do an MRI scan, but there are stud-

ies that focus on management of attention. What is interesting is that psychogenic movement disorder seems to be an over-control phenomenon. It is different from the paralyzed limb. Imagine you are a millipede with your thousand little legs, and I ask you to focus on walking. Or imagine the NBA playoff finals and I ask Stephen Curry to focus hard on how he dribbles and which muscles he is moving to dribble. What do you think will happen? A great deal will happen. In fact, with static posture there are many tiny movements that are under automatic control of your vestibular apparatus, of your vision, and of net receptors that are constantly making adjustments, so that, without thinking about it at all, it is automatically programmed to keep you more or less standing in one place. When people have psychogenic movement disorders you can show that there is an effort to try to overuse the executive division of the attention system to try, with volition, to manage movements that should be under automatic control. What happens when you distract the person? The movement goes away and control is restored with autonomic regulation.

There is a big debate about non-epileptic seizures. One can make a case that non-epileptic seizures may be a remnant of or the same thing that we see in other animals with a freeze response or immobility reflex; in other words not an abnormality. A carefully done MRI study showed that there was a significant amount of cortical atrophy over the right hemisphere motor and premotor areas. The premotor area controls much more integrated movements, but one key thing is that when seizures occur there, they often happen explosively. The seizures can sometimes happen in clear consciousness. There is discussion about whether non-epileptic seizures have to do with an emotional activation of this area. The bottom line suggests that limbic behavioral activation of the premotor cortex may be a mechanism.

Evolution builds on platforms. Whatever amphibians have, we still have, but we can overlay it. Most of the time human beings do not engage the fight-flight response when they are threatened. Instead, I say humans engage in tend and befriend. I remember this phrase well from September 11th. From my eighth-floor office window I could see smoke coming from the Pentagon. I knew I was not going anywhere because there was no traffic moving in Washington for hours. Why? People were not trying to flee. They were trying to get home to their families. They were trying to get to their children without any evidence that their children would be safer with them than if they were not with them. Under threat, human beings generally activate an oxytocin-vasopressin-dopamine system and we huddle, we group. We gather together, and that has been and is our evolutionary strength. Antelope flee, but down at the bottom, all animals, down to amphibians, will have a freeze response, which may have to do more with cholinergic systems. The evolutionary argument is that predators tend not to like dead meat, so if

you act like dead meat you are less likely to be eaten. Among humans, about 20% of people can easily go into a freeze response so there is some variance.

To summarize the big points, violence with suppression of expression produces high rates of conversion symptoms. Trauma history has a distal effect. If your amygdala is in a hyper-aroused state, you are more likely to trigger somatic dissociation. The immobility reflex is well understood. Dr. Bill Klemm at Texas A&M Veterinary Medicine has spent his entire career studying the immobility reflex. The reflex is a descending inhibitory reflex to the brain stem, but the formula for producing immobility is fear plus restraint. When a person feels trapped and scared, if they are vulnerable to freeze, that is when the freeze response will occur.

How do you help people? Again, the big points are that conversion symptoms are not about repression of unconscious impulses most of the time. Symptoms occur when there is an explicit suppression of the ability to express experience. How do you deal with somebody who has traumas or risk factors like PTSD? In its chronic form, PTSD might be lifelong. You can manage it, but you are never going to cure it. Hyperarousal will always be an issue. You work with people to teach them how to quickly move from high-arousal states into low-arousal states. What do you do if there is a risk of freeze response? You either decrease the fear or you decrease the restraint.

When I talk to medical students they are always thinking about making rounds on patients. If you want to earn honors on your surgery rotation, you better act like you are excited to be on surgery rounds. What if you hate it? You act like you are excited. In the right person, this will be enough to trigger a symptom. Imagine a social situation that you cannot stand being in, but you are obligated to be there. Not only are you obligated to be there, you are obligated to act as though you enjoy it. The useful tool is being able to work backwards. What you try to do is create safety and create settings where dialogues can happen that have not been able to happen.

Dialogue can take many different trajectories. Dialogue can often identify issues surrounding identity. There are three big groups in identity: who you know yourself to be in your heart of hearts; who you know yourself to be in your group role; and who you know yourself to be in the collective group. Suppose you are a physician and in your heart you feel a great deal of gratification in helping other people. You come from a family where others are physicians and you have good role models. The Hippocratic Oath means something to you so all three identity groups line up and that is powerful. Suppose there are many physicians in your family. You feel obligated to be a physician, but you really want to be an artist. This is when identities clash. These often give rise to some of the most difficult, unspeakable dilemmas that simply cannot be talked about.

This is a case I selected because there is no trauma history. A man in

another part of the world began experiencing slow, sporadic, non-rhythmic clicking sounds that occurred whenever he tried to fall asleep. The clicking sounds progressed and began to occur during the day. He consulted a neurologist, a behavioral psychologist, and other health care professionals. Nobody was helping him. He began to have similar sensations in his throat. His neurological history was negative; there was no history of psychiatric problems, no drug abuse, and no trauma. We always ask what is time-linked. When did something change? This is his story. The patient was a talented, upwardly mobile man who had many job promotions. Recently he turned one down. He was offered a big promotion, but he was the type of person more inclined to be a parish priest and not the bishop. That is when his symptoms began.

Earlier I said I think of this as a resilience-building therapy. I have three sets of conversations with patients. The first conversation involves three questions, and they are not simple. What do you desire? What do you want in your life? What would be the future that you would want if you could have it? If the questions are too difficult and patients cannot answer, then I go back and ask, “Can you tell me when you felt that life was on track, and how is that different now?” The second conversation is about what skills, resources, and competencies the patient has to work with. The third piece of the conversation is obstacles. I go back to the pivotal event. When you turned down that promotion, what changed? The patient said, “This is how it works. If you turn down a promotion people look at you differently. You are no longer the *go-to* person.” This is a clash between the heart of hearts self — whom I know myself to be, whom I want to be — and the workgroup self. The approach I would use is one that would help the patient move from avoidant coping and begin to utilize assertive coping.

When people use avoidant coping they shut down a great deal of awareness; awareness of feelings, awareness of impulses, and awareness of desires. This dovetails with some of the functional brain imaging. We talked it through. One thing I was able to learn from this man was that he felt like he had not been entirely authentic. He had not been honest about what he wanted. He attended the right prep school, the right university, and then the right graduate school. He had a great family with resources to support his education. Then he was out of school and in a downtown law firm. At a certain point, you veer off the map and do not know what you are supposed to do next. In fact, the path he took did not match up with what he wanted.

A great deal of what we worked on was being sensitive to the spontaneous things that he felt. For example, he was at a dinner party and heard the song, *Everybody Needs Somebody to Love* and he felt overcome. I asked him about his feelings because this was a popular young man who had dated extensively but he had never had a long-term, committed relationship. He said,

“I’ve been avoiding it.” I asked him to do some homework. The homework was to spend time imagining what life might be like in a long-term, committed relationship, and when he thought that it was a bad idea to keep track of the thoughts. I asked him to write it down and bring his journal to the next session where we would talk about what he had written. We talked about his conflict between his personal self and his group self, and that he was dealing with his conflict by self-silencing. Once you begin self-silencing, you activate all the things I have talked about, minus the trauma. This man did not have a trauma history. What came out is that this was a man that people envied for his life, his income, his resources, and his abilities, but he did this by coasting in life. If he put himself out there, if he took chances, he would have to face failure. At the end of the day, the coasting gives contentment and the risk-taking gives happiness. That is basically the therapy.

What happened to his clicking? This is interesting. Often the symptoms do not go away completely, but they become a way to monitor your life. He still has some clicking, but now when it happens he can relate it to specific things he does. It is no longer an alarm. The clicking does not mean he is sick.

I pulled out seven cases that were referred to me. In four cases 50% had remission of symptoms with no more than six therapy sessions. In three cases I could not engage the person. At least one of those, I think, was probably factitious disorder, which is a different diagnosis. I will end here, but hopefully I have given you some ideas and tools that you can use with your patients.

Speakers

Russell B. Carr, MD CDR, MC, USN

CDR Russell Carr is Chief of the Psychiatry Department at Walter Reed National Military Medical Center. He is a board-certified psychiatrist and the only fully-trained psychoanalyst on active duty in the DoD. He graduated from the University of North Carolina at Chapel Hill with a BA in Russian Language and Literature with Highest Honors, and then completed medical school at the University of Tennessee at Memphis. He completed an internship in Psychiatry at Naval Medical Center Portsmouth. After five years as a General Medical Officer, Dr. Carr completed a psychiatry residency at the National Capital Consortium. He has served fifteen years of active duty in the Navy, including a deployment as a General Medical Officer in 2002 with the JFK Battle Group to the Persian Gulf in support of Operation Enduring Freedom and another deployment in 2008 to 2009 with an Army Combat Stress Control Unit to Mosul, Iraq. Prior leadership roles in the Navy have included being the Medical Department Head aboard the USS SEATTLE as a GMO, the Chief of Inpatient Psychiatry and Department Head of the Psychological Health-Traumatic Brain Injury Department at the National Naval Medical Center in Bethesda, and then the Service Chief for the Integrated Adult Behavioral Health Clinic for Walter Reed.

In 2013, CDR Carr completed six years of training in adult psychoanalysis at the Institute of Contemporary Psychotherapy and Psychoanalysis (ICP&P) in Washington, DC. Recognitions have included being named a Laughlin Fellow of the American College of Psychiatrists in 2008 (which recognizes the top ten psychiatry residents in the country), being selected in 2013 to testify before the Military Personnel Subcommittee of the House Armed Services Committee along with the three Surgeons General and Dr. Woodson on PTSD treatment in the military, and being requested by name by the Ugandan military to train their mental health providers on his published approaches to difficult-to-treat combat trauma.

James L. Griffith, MD

James L. Griffith, MD is Leon M. Yochelson Professor and Chair of the Department of Psychiatry and Behavioral Sciences at The George Washington University School of Medicine and Health Sciences in Washington, DC. Dr. Griffith received his MD in 1976, followed by Neurology Residency and an MS in Neurophysiology at the University of Mississippi School of Medicine in 1979. He completed Psychiatry Residency at Massachusetts General Hospital and Harvard Medical School in 1983, followed by a Clinical and Research Fellowship in 1985.

Dr. Griffith has developed a model of psychiatric residency training that balances biological and psychosocial therapies in the treatment of patients within their family, community, and cultural contexts. He provides psychiatric treatment for immigrants, refugees, and survivors of political torture in the Program for Survivors of Torture and Severe Trauma (PSTT) at Northern Virginia Family Services. Under his leadership, the George Washington University Department of Psychiatry has become nationally recognized for its excellence in global mental health, psychotherapy training, neurosciences education, and psychosomatic medicine. In his clinical practice at The George Washington Medical Faculty Associates, Dr. Griffith treats psychosomatic disorders, psychiatric complications of medical illnesses, and other problems of couples and families. Dr. Griffith has been named a *Washingtonian Magazine* Top Doctor.

David E. Gwinn, MD CDR, MC, USN

CDR David Gwinn, MD is Chief, Department of Orthopaedic Surgery at Walter Reed National Military Medical Center in Bethesda, MD. He is also the Orthopaedic Consultant to the White House Medical Office.

Dr. Gwinn is a 1994 graduate of the United States Naval Academy. He attended medical school at the Uniformed Services University and in 2007 completed his residency in orthopaedic surgery at the National Capital Consortium, National Naval Medical Center Bethesda, Walter Reed Army Medical Center. Following his residency, Dr. Gwinn completed a fellowship in spine surgery at the Cleveland Clinic.

Dr. Gwinn is the recipient of numerous honors and awards and received the Joint Service Commendation Medal in 2014. He is the author of several publications and three book chapters.

Edmund G. Howe, III, MD, JD

Dr. Howe is Professor of Psychiatry, Director of Programs in Medical Ethics, and Senior Scientist, Center for the Study of Traumatic Stress (CSTS) at the Uniformed Services University (USU).

He received his undergraduate degree at Yale University and his MD at Columbia University. Dr. Howe completed an internship at Harlem Hospital and his residency in Psychiatry at Walter Reed Army Medical Center. He attended Rutgers University law school and then received his law degree from Catholic University. Dr. Howe joined the USU faculty in 1977. His research has focused on medical ethics with an emphasis on ethics in military medicine and clinical care at the end of life.

Dr. Howe's professional contributions center on his interest in ethics. He is the Founding Editor-in-Chief of *The Journal of Clinical Ethics* and has served as a member of the Walter Reed Army Medical Center, National Naval Medical Center, and Malcolm Grow U.S. Air Force Medical Center Ethics Committees, as well as the Ethics Committees at Montgomery Hospice, the Visiting Nurse Association, Springfield Psychiatric Hospital, the V.A. Hospital of Washington, DC, and the National Institutes of Health. He is Chair of the Human Use Institutional Review Board, USU, and a member of the CIA IRB. He is a member (and Past President) of the Academy of Medicine of Washington, DC, the Group for the Advancement of Psychiatry (GAP), and the Newborn Screening Translational Research Network (NBSTRN) Bioethics Workgroup, American College of Medical Genetics (ACMG).

Dr. Howe is past Chair of International Health Law Committee of the International Law Section of the American Board Association, presently the Liaison: International Section of the American Bar Association (ABA) and the Bioethics and Law Committee, and a past appointee to the Governor's Commission of Health Care Policy and Financing for the State of Maryland. He is or has been a consultant at NIH, OTA, HHS, FDA, the U.S. Public Health Service, the National Science Foundation, and NASA. Dr. Howe is on the editorial boards of the *Journal of Contemporary Health Law and Policy*, *The Mid-Atlantic Ethics Committee Newsletter*, University of Maryland School of Law, Baltimore, MD, *BMC Medical Ethics* and *Innovations in Clinical Neuroscience* (formerly *Psychiatry* (Edgemont)).

Alex Martin, PhD

Dr. Alex Martin is Chief of the Cognitive Neuropsychology Section in the Intramural Research Program of the National Institute of Mental Health (NIMH). The program's research is focused on understanding the neural organization of human memory and social processing systems and how they breakdown in neuropsychiatric disorders. Dr. Martin received his PhD from the City University of New York and did his post doctoral work at the National Institute of Neurological Disorders and Stroke on the breakdown of language and memory processes in Alzheimer's disease. In 1985, he joined the faculty of the Uniformed Services University where he studied cognitive dysfunction associated with HIV infection. Dr. Martin is an elected Fellow

of the American Association for the Advancement of Science, the Association for Psychological Science, and the American Psychological Association.

Christopher J. Neal, MD

CDR, MC, USN

Dr. Christopher Neal is Associate Program Director, Department of Neurosurgery, Walter Reed National Military Medical Center, Bethesda, MD.

CDR Neal was born and raised in Missouri and came to the Medical Corps via the Health Professional Scholarship Program. Dr. Neal received his BS from the University of Missouri–Columbia in 1997. He attended medical school at the University of Missouri–Columbia School of Medicine and afterwards did his internship and residency in neurosurgery at the Walter Reed Army Medical Center, Washington, DC. In 2009, Dr. Neal completed a fellowship in complex and reconstructive spine surgery at Northwestern University. He is a member of the American Board of Neurological Surgery.

Upon completion of his training, CDR Neal was stationed at the National Naval Medical Center where he deployed in 2010 as an Individual Augmentee to Landstuhl Germany in support of the Global War on Terror. In 2014, he deployed as the sole neurosurgeon to Kandahar, Afghanistan where he served as the Director of Surgical Services for the NATO ROLE 3 Hospital.

Dr. Neal's academic awards include the Kempe Award for the Outstanding Neurosurgery Resident in the National Capital Consortium, the General Graves B. Erskine Award for Outstanding Resident at Walter Reed Army Medical Center, the National Naval Medical Center Outstanding Resident Teaching Award, and the COL Juan d'Avis Award for the Outstanding Department of Surgery Resident. His military awards include the Meritorious Service Medal, Navy Commendation Medal, Army Commendation Medal (2), Overseas Service Ribbon, Afghanistan Campaign Medal, and the NATO International Security Force Medal. Dr. Neal is the author of more than 20 peer reviewed journal articles and several book chapters.

Benjamin Potter, MD

LTC, MC, USA

Dr. Benjamin “Kyle” Potter is Vice Chair of Orthopaedic Surgery at Walter Reed National Military Medical Center and the Vice Chair (Research) and Associate Professor of Surgery in the Uniformed Services University Department of Surgery. He is also the Chief Orthopaedic Surgeon for the Amputee Program and a musculoskeletal oncologist at Walter Reed, and a musculoskeletal oncology consultant at the National Institutes of Health.

Dr. Potter is an honor graduate of the United States Military Academy at West Point. He attended medical school at the University of Chicago, Pritzker School of Medicine, where he obtained his doctorate of medicine degree

and graduated Alpha Omega Alpha. He then completed his orthopaedic internship and residency training at Walter Reed Army Medical Center, winning the General Graves B. Erskine Award for outstanding graduating resident from any program in the NCR as well as the Bailey K. Ashford Award for best clinical research. Dr. Potter subsequently completed a fellowship in musculoskeletal oncology at the University of Miami, Miller School of Medicine before returning to Walter Reed as an attending physician and surgeon.

LTC Potter deployed to Afghanistan in 2011, serving as the Chief Orthopaedic Surgeon of the Task Force 115 Combat Support Hospital (Role III) in Camp Dwyer, Helmand Province. Dr. Potter has authored or co-authored more than 120 peer-reviewed publications, as well as numerous invited manuscripts and book chapters. He has been a principle, co-principle or associate investigator on more than 20 grants and programs totaling nearly \$65 million in funding, including serving as a Deputy Director for the ongoing Surgical Critical Care Initiative (SC2i). His research interests include heterotopic ossification, trauma-related amputation techniques (including osseointegration and targeted muscle reinnervation) and outcomes, management of metastatic disease of bone, and bone and soft tissue sarcoma treatment.

Jack Pula, MD

Dr. Jack Pula is a psychiatrist and psychotherapist in private practice in New York City, Assistant Clinical Professor of Psychiatry at Columbia University, and psychoanalytic candidate at the Columbia Center for Psychoanalytic Training and Research.

Dr. Pula has given multiple talks in psychiatric and psychoanalytic settings on transgender experience and mental health. He serves on several related committees, including the American Psychiatric Association's Working Group on the Treatment of Gender Dysphoria, the Committee of Gender and Sexuality of the American Psychoanalytic Association, the Group for the Advancement of Psychiatry Committee on LGBT Issues, and the transgender committee of the Association of Gay and Lesbian Psychiatrists. He is an active member of the World Professional Association of Transgender Health (WPATH).

Dr. Pula combines his experience as a gender and sexual minority, and advocate for disenfranchised populations, with his psychoanalytic education and unusual clinical experiences as patient and doctor, in a way that uniquely informs his thinking about mental health, psychopathology, transgender experience, and his role in helping others.

Dr. Pula's publications include: "Ethical Issues Raised by the Treatment of Gender-Variant, Prepubescent Children," with Jack Drescher, MD; "On Psychotherapy, LGBT Identity, and Cultural Visibility: In Conversation with

Alison Bechdel,” with Adam Critchfield, MD; and “Understanding Gender through the Lens of Transgender Experience,” forthcoming in the *Journal of Psychoanalytical Inquiry*.

Brett J. Schneider, MD

COL, MC, USA

Colonel Brett Schneider, MD is Director for Behavioral Health Services, Walter Reed National Military Medical Center (WRNMMC), Bethesda, MD. He also serves as the appointed Child and Adolescent Psychiatry Consultant to the U.S. Army Surgeon General. Dr. Schneider graduated from Creighton University with a co-major of Biology and Philosophy. He attended Creighton University School of Medicine and after graduation he did his psychiatry residency and a child and adolescent psychiatry fellowship at Walter Reed Army Medical Center. After completing his training, Dr. Schneider served as the division Psychiatrist for the 1st Infantry Division in Vilseck, Germany for two years before returning to Walter Reed to do a fellowship in forensic psychiatry. He served two tours in Iraq for Operation Iraqi Freedom. Dr. Schneider served as the Chief of Telepsychiatry and the Chief of Child and Adolescent Psychiatry prior to being named the first Chief of Psychiatry, WRNMMC.

Harold J. Wain, PhD

Dr. Harold Wain PhD, FAPM, is Chief of the Psychiatry Consultation Liaison Service at Walter Reed National Military Medical Center. He is also a Professor in the Department of Psychiatry at the Uniformed Services University, Bethesda, Maryland. Dr. Wain was Chief of the Psychiatry Consultation Liaison Service at Walter Reed Army Medical Center. He has previously been Director of the Psychiatry Consultation Liaison Service and the Director of the Psychosomatic Clinic. Dr. Wain has also been Chief of the Psychology Service at Walter Reed Army Medical Center.

Dr. Wain completed his clinical training at Walter Reed Army Medical Center. He has published and lectured extensively both nationally and internationally in the areas of psychosomatic medicine, hypnosis, somatoform spectrum disorders, trauma, pain, and consultation liaison psychiatry.

Thomas N. Wise, MD

Dr. Thomas Wise is Medical Director of Behavioral Services at Inova Health System. He serves as Professor of Psychiatry and Associate Chair of the Department of Psychiatry at The George Washington University School of Medicine. Dr. Wise is also Professor of Psychiatry and Behavioral Sciences at The Johns Hopkins School of Medicine and Professor of Psychiatry at The

Virginia Commonwealth University Inova Campus School of Medicine. His research interest is in the area of coping with medical illness.

Dr. Wise is series editor of *Advances in Psychosomatic Medicine*. He is co-editor of *Psychiatry in Primary Care* in its second edition. Dr. Wise is also editor of a new textbook, *Psycho Oncology*. He has published more than 315 papers and chapters

Dr. Wise was born in Reno, Nevada, and raised in the District of Columbia. He graduated from Dartmouth College and Duke University School of Medicine. Dr. Wise is board certified in Psychiatry and Psychosomatic Medicine.



Center for the Study of Traumatic Stress
Uniformed Services University
4301 Jones Bridge Road, Bethesda, MD 20814-4712
www.CSTSonline.org