LTC Juanita Warman Nursing Grand Rounds 2024 Q3-20240509_220607-Meeting Recording

May 9, 2024

- I just want to welcome everyone to Inaugural Lieutenant Colonel Juanita Warman Nursing Grand Rounds.

  Before I introduce our first speaker, I want to take a moment to honor the person who this event is named, Lieutenant Colonel Juanita Warman was born in Pittsburgh, PA, and was a graduate of the University of Pittsburgh, earning a Master of Science and Nursing. Like her father and grandfather, she served in the United States Army. LTC Warman, was a certified nurse psychiatric nurse practitioner who specialized in treating post-traumatic stress disorder and traumatic brain injury. Her distinguished military career on active duty and in the reserves spanned more than two decades, serving in the United States and Europe. While at Landstuhl Regional Medical Center in Germany, she regularly volunteered for round trip flights to Iraq to care for soldiers being sent from the combat zone to Landstuhl. At Madigan she served at the as the hospital bed manager. LTC Warman took great pride in her work with soldiers returning from deployment and sought an assignment that would take her downrange and closer to Soldiers. She volunteered for deployment to Iraq to better treat deployed service members. LTC Warman, had been at Fort Hood only 24 hours preparing for deployment to Iraq when she and twelve others were shot and killed on November 5th, 2009. It is our great hope that we honor her legacy and commitment to nursing excellence through our educational offering today.

  It is my great pleasure to introduce our first speaker today. Doctor Bridges has over 40 years of experience in critical care, and she is a retired Colonel of the United States Air Force Nurse Corps. Her military assignments during her 30-year career included Deputy Commander, Clinical Research Squadron - Wilford Hall Medical Center, Director Deployed Combat Casualties Research Team - Afghanistan, and the Individualized Mobilization Augmentee - Director, Air Force Nursing. Her research focuses on the care of patient during long-distance military aeromedical evacuation and austere operational settings, and the integration of hemodynamics into the care of critically ill patients. She is the editor of the Tri-Service Nursing Research Program

Battlefield and Disaster Nursing Pocket Guide, which is currently waiting to be published with the updated edits. And she has one of the largest programs of operational nursing research in the DoD. Doctor Bridges is a professor emeritus at the University of Washington School of Nursing in Seattle, and as of January 2024, she is also retired from her position as the Clinical Nurse Researcher at the University of Washington Medical Center. And she just told me right before this that she's looking forward to enjoying some of her retirement, very shortly. She served as the President of the American Association of Critical Care Nurses in 2020 to 2021, during the pandemic. Dr. Bridges is well known for her presentations on the integration of evidence into practice that includes multiple topics related to sepsis, hemodynamics, and operational care. Please help me welcome Doctor Elizabeth Bridges.

03:10 Good afternoon.
Thank you so much for having me down here and it really is an honor to be here at this workshop that really honors one of our heroes, so I appreciate that. Madigan is actually a very special place for me. My parents were married here at Fort Lewis.
My mother served here after she came home from Korea and at the Old Madigan Hospital with the long runways of halls, and my father was here as an artillery officer. So, it feels good to be here at Madigan today. When I was asked to give this this talk, it was really to talk about nursing research and I know tomorrow, Mary, you've got a big research symposium that’s going on. I had the privilege in my career to be in a place where I could ask questions and to be given the opportunity just to serve as a, to serve as a researcher. So what I really want you to get out of today is really first that notion of you need to look around, we're at a place we need to look forward and you need to look around to come up with those questions.

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All right, so here's the formal learning objectives, because we have to have those. But let me just tell you what I want you to get out of this. At the end of this, I want you to say I have questions, and I want to be a part of the answers to those questions. And more importantly, I will be a part of the answer to those questions as well and I will try and point out as we go along because I know there's a post test, anything that I think is particularly interesting to you, that you might want to pay attention to, but I really want you to just stop and to think about the topics in terms of how you might apply them and to quote Ted Lasso, “Be Curious.”

These are my disclosures. All my research for my entire career was funded by the by the Department of Defense as well. Somebody told me one time, "I don't know exactly what you do all day, but I'm sure I'm glad you do it." And then they will say, well how do you come up with these ideas for the research, and some of it I'm going to show you today. And I would tell you that I learned later on, that it's a hallmark of leadership, and that's curiosity, and that curiosity comes from looking around you. What are you seeing? But more importantly, it comes from listening. That to me, I think is the most important thing, and for me. What I heard once early in the war, I was talking to a nurse who was deployed to Afghanistan, and I said, what do you wish that you knew? And they said I just didn't know where my patient was at. Meaning I have a patient who's in shock or maybe not. I just don't know where they're at because we all know and caring for young, wounded warriors, they're fine until they're not. The thing that you really want to do is to listen, because that statement has led my career for over 20 years to try and help answer the responses. I'll show you some of the research that I did that always had that voice in the back of the back of my head.

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So how do you come up with ideas? You need to be systematic. Our team of researchers at Wilford Hall at the time, which is where I was stationed, Doctor Joe Smeltz, Doctor Don Johnson, we always used to sit down and say, you know what's next and the way we finally got at that was we really asked 5 questions. The first question you are going to ask is who are our patients? What do you do on a day-to-day basis that you're also going to do in the operational environment? What is going to be the same, and what going to be different. What are the characteristics of the field/deployed environment? Who are our patients going to be? It's important to not just focus on today and today's war, but what we think may be coming ahead? How does the deployed environment affect our care? Then when you put those patients in that environment and those care requirements together, what has to change? And finally, what are the research questions? What are the questions that have military unique or relevant application as well? There's a lot of great questions we can ask. This is our mission. It's our mission to get ready to go to war and as a nurse scientist my job is to help to try and answer those questions as well, but the questions come from you.

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So let me just give you a sense of what that sort of looks like for me. So, these were some of the research studies that I did. And as we started to do them initially it was care in the air because that was pretty obvious target for us. What happens in the back of the aircraft because we have very little research about that. But the more I got into that, I really started to think it wasn't care in the air, it was care within context.

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So, within the context of the deployed environment, what you find is that one question leads to another and then you'll loop back around and then you come on to another question. And so, rather than a traditional program of research, which is often one question leads to another question, it's a very linear program.

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My program of research looks a little bit more like a Jackson Pollock design, but central to that at all times is that notion of care within context.

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Now the other thing is I love hemodynamics. I can tell you I used to watch “Hemo the Magnificent” when I was in the eighth grade. It was about hemoglobin molecules. Yes, that's kind of weird, but it's just one of my favorite movies. But this really is to answer that question, I don't know where my patients at. So these are studies that are using particularly less invasive or noninvasive strategies that we could apply. Some of these were done in a research laboratory. So for example, we did a study on using noninvasive skin tissue oxygenation as a marker of shock in an animal model of hemorrhagic shock. And when I was deployed, I was talking to Doctor Greg Billman, who was the JTR surgeon at the time, and we were trying to sort out, is there something we could give our field medics that would help them when they're faced with two or three patients in front of them? Which is the one that's going get care first? Because again, the vital signs are not always going be that useful, and that led to a series of studies about occult hypoperfusion that I did with the California National Guard, the medics in the front, and also with the ECCM's during transport as well. So again, I look at these all of these questions and this is research that I've done and it's really about answering that question.

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I didn't know where my patient was at and fortunately for me as well, I have a civilian research career and so many of these also intertwined. So, they just keep coming back and your one answer one question will lead to an answer and then you'll loop back around and say I can use that information to answer a question, so I'll show you what a few of those look like.

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Now, as a research scientist, you can say my job is to create evidence. I've got a research question I answered, I just statistically significant findings, I get it published and that's the end of my work. And I will tell you that's no longer good enough. You may not be the person who carries it forward, but that research has to be designed to contribute to moving things forward. That's why the cell that you have here at Madigan is so important. The partnerships of the PhD and the DNP prepared nurses the CNS's. That's all about translating evidence into practice, and I will tell you if you want to get a researcher to smile it is when they see that their evidence has translated into something that has changed practice or you see it in policy. So these are some examples of some of the research that I did that has informed our critical care transport that has informed the readiness competencies for the Air Force that informed the content that sits in the Battlefield Pocket guide as well. So for those of you, your day doesn't end on the day that you're publish your paper, it's always about what's next and how am I going make a difference.

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Now the question you always want to ask is who are our patients? And I will tell you good or bad, there's probably only so many ways you can get injured in war. Now the complexity of those injuries is astounding. But in 1999 I started a simulation lab at Wilford Hall. We had the first simulator, and we built a simulation lab and the things we were training on were bomb blast injuries, orthopedic trauma, airways, pneumothorax and burns, sound about right. So good news or bad news, that's the only way you can do that. But again, you have to say to yourself, "How do I get ready to care for those patients?" That's what your readiness is about. And what's the same in their care, and what's going to be different in their care? That's over there on the right of the slide. That's the board in the in the ICU at Bagram, which is where I was

stationed, gunshot wound to the abdomen, gunshot wound to the face, gunshot wound, isolated. IED to lower right lower extremity gunshot wound to the chest, and frags to the abdomen. Now I can tell you just because I know the beds that those are in, those are all local nationals, so they didn't have body armor on, but you have to ask yourself, who are those patients because now what do I need to do to take care of those? And I will also point out that there are three beds open. Almost all those patients are on mechanical ventilators, and the ICU is also covering the PACU. What do you need to do to get ready to work in that environment?

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Now one of the things I think is that all of us, whether it's here on your unit or in our deployment, we often tend to think in epochs of care. I'm thinking about my patient on my unit. I'm not thinking about the patient in the operating room or the patient who was down in the emergency department and all of our research predominantly early in the war, particularly focused on those epochs of care role two and role three hospitals, so we have more research there. It's easier to put resources there to conduct that research, but you have to remember that this is a chain, and if at any point along this whole continuum of care that chain breaks, you are not going to have the outcomes that you want for your patients. So as a researcher, I had to think not only about an epoch of care, but I had to think about of continuum of care. What does that care look like as we move an individual across that continuum of care? Because for us, our continuum of care wasn't just from the emergency room to the OR to the ICU. It was an 8000-mile-long road trip from the time they left Afghanistan to the time they arrived back here in the United States was 8000 miles with at least 14 handoffs. Stop and think about your patients, the number of places they stop in the care here at Madigan, the number of handoffs, everything that has to go well. So when you think about research, think about it not only in an epoch, but think across the continuum of care. And let me give you one more challenge. The next time you get in the in the elevator where the patient headed off to CT and those doors close, what you have for the next 8 hours is what you took into that elevator with you. Whether it's equipment and supplies or what's up in here in your brain, that's all you have. That's what readiness is about, to think about that. So think about that when you when you're thinking about what are the questions that I want to know?

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So let me just show you some other a little bit more about who our patients are, and I would say this has probably been a labor of love for me. I've spent the last 10 years working with the team at Wright Patterson Air Force Base to pull together the over 230,000 records from 156,000 casualties who have been evacuated both from the operational setting are wartime missions and from disasters as well to start to answer again, who are our patients? And a question you might just immediately ask, what the heck was happening in 2003? Well, obviously very early on in the war, those are almost all medical and those are almost all disease, non-battle injury. So, a lot of Orthopedic volleyball injuries. A lot of combat volleyball, but also probably some disease and non-battle injuries that should have probably disqualified an individual from going down range to begin with and they got down range and they needed to be brought back out. But let me drill down a little bit more for you to think about. How do I think about what's coming as well?

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So these are some data from this data set, and this is from the Second Battle of Fallujah, which was probably one of the major battles in the last war. It was the largest battle of the Marines and Army were in since Vietnam. So you can see that within this two-month period, we evacuated over 2200 patients, 25% of those individuals were critically injured. So now I want you to stop and to think about that. Take a look at the number of missions that launched with over 40 patients on board. Go back up to your unit and you're going to get report, and if I said to you oh, we're getting a few patients, 40 to be exact, and they're all coming at the same time. And here's all the information that we know about them. How are you feeling about that? But yet every day, that's what was happening multiple times a day. There were missions where there were 65 patients. Now you might be saying, well, that's an AE mission. That's an Air Force mission, but it's not an Air Force mission because you were taking care of the patients before they got on the aircraft. And you have to think about what's going to happen to them during that transport or you may be the individuals at Landstuhl receiving those patients. Every time one of those planes landed at Landstuhl it's like a mini mass cas(ualty) and they did it very, very well, but this is the reality that we have to plan for and in fact we're using the data from this epoch to write training scenarios to say in worst case scenarios how many nurses do you need on board an aircraft? How many medics do you need on board an aircraft?

What are the care requirements on that and let me show you then how you can drill down from this.

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So this is data from a live mission. There were twelve patients, nine of them, there were altitude restrictions on there, so that's good news for them. The ones in blue are the CCATT patients, so any of you who work in the intensive care unit, those would be technically your patients, although I'd have to say in wartime you may become a critical care nurse or helping critical care if you don't have enough resources because somebody's gotta sleep sometime. But what you really want to look at? And here's where you need to think about is you want to look at those characteristics, those casualties, and say what information is there? What else do I have a question about what's going on with that patient? Your Spidey senses have to go up as there's something else there that's not exactly right, so take a look at this and you can see that these are not all combat injuries. There are other reasons people had somebody got a hernia, gotta be evacuated, somebody had low back pain that could no longer do their soldier duties, so they have to be evacuated. But most of these, this was during a high operational tempo. But take a look at this guy here (4th patient on list). He's got an open right radial fracture. He's got fractures of his hand and a urethral injury taken to the operating room. So, he's now postop, his oxygen sats look good, his neurovascular assessment is within normal limits. He's got a splint, his H&H looked pretty good. He's got some pain meds ordered. Everything looks pretty good. Anybody see anything there that would make you say there is something else going on with this guy? I need you just have one more look at him. I'll give you the clue, it's the very last thing on there. He's got a blood pressure 154/81, now he may be anxious, he has to get on the airplane. We did some research, and you'd have to say, well, does this guy have a history of hypertension. Why is his blood pressure that high? Probably not normal. Well, we did some research over several years, including putting individuals on board the aircraft to observe patients and to observe the interactions they had with the crews, specifically around pain management. And what we found was that apparently there was this little rumor going around and patients would tell each other this sort of like they memorized the mace scores. I don't know if you know that. So, there's this little rumor that you weren't getting on the plane if your pain score was more than a 3. Guess what everybody in our studies pain score was before they left the hospital.

Three, everybody was three. Now they get out on the runway, they get them in there, they get the plane buttoned up. They take off Guess what? Their pain scores were, yeah, not three. And now all of a sudden you've got two flight nurses on board an aircraft with 40 patients who are having to deal with individuals who don't have controlled pain but. And you look on this in 2004, they never put the pain scores in the records. And I have to tell you, I went looking for it. It's intermittently throughout all of our records. For some reason, somebody didn't think that was important, but that's where you then as a nurse say to them, there's something else going on. Let me just take one more look at this guy to think about is there something else that we need to be doing for him so we can get him safely onto the plane and get him out?

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Here's all the rest of them today. Now here's what I want to ask you. What if the plane doesn't come? You are now in a prolonged care situation. What are you going do? What are the resources you're going to need? There's no help coming. You're it? What is the care that you need to give to these patients? So what I'm doing is a part of our research and still doing with the with the team at Wright Patterson is that we have from every flight a profile. Here are the patients who are on board the aircraft and so we can ask over and over again what's the care that would be required and we can ask that same question. What would happen if the plane didn't come? What would we need? What would be the care requirements that we would have to do? So, this is just an example of thinking about who are our patients and thinking forward into our next operational setting.

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Now obviously for me, I was in the Air Force and the mission really there was very, very little research that had been done with the flying community at the time that I started doing it. And I was very fortunate that I had colleagues who were Flyers who said come fly with us. Now it's not so easy to get on back in the back of an aircraft with equipment. I have to tell you, people are like you're doing what? But it didn't take very long for all of a sudden to have the pilot come out and say, hey, I heard we got our researcher on the back of the plane today. How high do you need to fly and how fast do you need me to get there? Now I don't know about you but talk about a kid in a candy store when somebody's going fly a flight profile and a C-17 cargo aircraft just for you? But for me it was that piece of coming on board the aircraft. I'm

not the expert at flight nursing, but what I bring is my knowledge as a researcher and I'm looking at very specific things and I can ask them, tell me what else you need to know, and then I can turn around and take that back.

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But in addition to just the structural care that's provided within that, I'm also very interested in again that environment. So for us on board the aircraft, it's the stresses of flight and if you've ever been on an airplane, which every one of us has, you have experienced the stresses of flight. This is what makes your ears crack when we go up and down, and it makes your yogurt explode. Stop and think about what that would be like for an individual who has trapped air, or the vibration, we know that the worst pain occurs in individual who have external fixators because the plane is doing this. So just stop and think about it. So these are all the things that I think about and you could take these similar sorts of parameters or think about one of the characteristics of the environment in the back of a ground vehicle or in the back of a medevac chopper or on board a Navy ship. And you can apply those and start asking those questions again, how does that affect the care that we're giving? Now, I do know that one of the things that I learned when I came home from my deployment they said, hey, can you give a talk about Air Force nursing in the deployed environment? And I said, you know, I really can't. And they're like, well, the army and the Navy are doing it. And I said, well, no, I said cause here's my take. Good nursing care is good nursing care. It doesn't matter the color of our uniform. We may have slightly different missions, but good nursing care is good nursing care, so we stop and think about it. However, I will tell you that there are some things, and I'm just going to take bragging rights on this that I do think the Air Force does a little better than anybody else. We just do it with a little more style. It's not that you guys can't do it, but we do it with a little bit more style.

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So let me introduce you to this therapeutic maneuver. This is Trendelenburg, Air Force style. Now here's what I want you to stop and think about. That's a hospital. What if there are patients on board that aircraft? If you've ever been on- anybody here, ever been on an aircraft that's done one of those combat ascents. Yeah, you can tell who are the rookies and who are the experienced people because when they

come out and they say we're going have a hard takeoff and the experienced people all reach up and grab the strap up behind their head because they know they're going to go flying towards the back of the airplane as well. But even with a less severe ascent, what's the impact of that environment on the individuals who are inside their being cared for as well? So that's a piece again where you look at that environment of care. And let me show you an example of that.

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The gravitational forces that are associated either with having your head tipped down or just that acceleration. This is from some work from one of our CCAT physicians, Doctor King, and what they were looking at was intracranial pressure and individuals, whether they had their head to the front of the aircraft or their head to the back of the aircraft. And when they took off, they had the head to the front, so the patient was actually loaded backwards from what we would normally do, and that was to mitigate and avoid increased intracranial pressure and halfway through the flight they actually picked up the stretcher, the litter, and turned it around backwards to see what would happen from them and what they found. And this is some data from their research. This is an accelerometer, and this is where you see we're takeoff and landing.

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This is a patient who didn't tolerate. You can see their intracranial pressure all over the place. That's a patient down there in the bottom who did tolerate. So we have to figure out is there a way for us to know which ones of those patients there are, but again, it's looking at those stresses of flight and understanding that medevac, it's the same way. There's research, particularly on helicopter transport, that we can learn from our civilian colleagues on the impact of that patient who's a head injury, a patient who's in congestive heart failure. Which way do you position them? Another thing, again, I showed you air expands at altitude. If somebody's got a pneumocephalus? How much expansion and does that translate into something abnormal or a pneumothorax, or air trapped in their eye? You may see a flight surgeon that designates that this is an individual has to have a cabin altitude restriction and they'll lower the cabin altitude for that patient to avoid the gas expansion or to avoid the hypoxia that occurs at altitude. So everybody gets the benefit of it, and everybody gets to fly through the clouds, which if you've ever done

that is also very hard. But that's again, that stresses of flight that you could think about in a ground-based transporter and medevac. And then I took it one step further and I said what's the impact of that change in altitude on the gas bubbles? So if you ever look at a ID pressure tubing, you ever see those little micro bubbles in there, those little micro bubbles, expand at altitude and what happens in hemodynamic monitoring equipment, which we're very dependent on at altitude that you can see all the ones that went red completely reduces the ability of that equipment to give you a true estimation of what's going on with the patient. So it's again, it's just asking what do we do on a day to day basis that will also do in that deployment environment. What are the characteristics of that environment? What do we need to do to mitigate the effects of that?

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This is just another example. This is from Doctor Jay Johannigman and I will tell you again if you've ever been on an airplane, which we all have. When I go in the cabin, we usually fly to cabin altitude between 6 and 8000 feet and even you on board that aircraft will drop your oxygen saturation 3 or 4%. You'll just do it. You'll just do it naturally. It's a real good reason, you know good reason to go to sleep on the airplane and especially if they do that and then they turn the heat up and the plane guaranteed to have you go to sleep but stop and think about all the patients around there. I would just look around when I get on a plane now and I'm thinking I don't think you've got 3 or 4% right to do that, but that's just normal now. So they did a study of 61 casualties and you might want to know this for a question that might come up later. 56 of those 61 and these are walking wounded, experienced hypoxia during their flight, meaning they had an SpO2 that dropped less than 90%, and on average they were in that state for about 40 minutes. And it wasn't detected by any other clinical side. Not somebody saying I'm, you know, I have dyspnea or shortness of breath. It was a cold hypoxia and that's what's happening. And there were 34 of those 61 who had critical Sp02 drops to less than 85%. Stop and think about that on a patient who can't afford to have that exposure, somebody with a mild traumatic brain injury. This is a secondary insult. Now, you might say well, the simple solution to that is everybody gets on the plane, gets 2 liters of nasal cannula, oxygen going, and I'm going show you why that simple answer won't work. You have to figure out are there certain patients who maybe need standby oxygen who are at a higher risk.

But I'm going show you why you can't put oxygen on everybody in the back of an airplane.

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If you've been listening to our Corps Chiefs, we know that our next or may not be a ground battle. It may be at sea, and we may be whether your Army or Air Force may be supporting what's going on out at sea. You've got to get your hands on a copy of this paper. This was published in the Journal of the Special Operations Medicine, and I put the references on there and you have copies of all my slides as well. So if you can't get a hold of it, and this is a notional series, a case series of nine casualties on board and on a Navy ship that was hit by torpedo or something and individuals ended up in the water and there were further explosions with the individuals in the water. So if you look at these individuals, you can see some of them are just a pure trauma blast injuries that we see bleeding those kinds of things. Casualties 6, 7, and 8 were individuals who were in the water. They were in their life vest, but they were in the water when an explosion went off. And you'll notice that none of them have any external injuries. Yet what they all have are very profound blast injuries because blast waves pass through water more effectively than they pass through air. These individuals, even though they don't have, they might not draw your attention. These individuals are probably some of your most critically injured casualties. And then the nice casualty, they're like, wait, don't know why I didn't have this life vest on because we were at general quarters, but what you have there is a near drowning as well so to think about that. So I would recommend you get a hold of this paper because it has all their presentations, and here's how we would manage them as well. And the JTS CPG on near drowning to understand that now the last one I want to point out is casualty #5 and this is an individual who has been burned very, very severely probably is not a survivable injury would be very difficult for that individual to survive even in the best of trauma care. What's the palliative care look like under the operational setting? It's a question that's being asked right now, but we don't have good protocols for that. How do you decide when an individual is assigned to comfort care in an operational setting? What does that look like? How do you provide that care as well? So, questions that need to be answered and highly recommend. This is probably one of the best papers I've read recently.

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Now let me give you a real-world example. Anybody remember the USS Cole? In 2000 the USS Cole was in the Gulf and was hit by a Zodiac carrying some munitions, and there were seventeen deaths. Two were thought potentially to have been survival after the fact, but you can also see them. There were over 40 individuals injured. These are the critically injured casualties again, and what you can see then are the injuries just from direct secondary injuries from being explosions, but also from individuals who are down below decks, who were thrown against walls who had blasts exposures as well. This individual pulmonary blast injuries as well and oh, by the way, you have all of what are considered the less critically injured, predominantly orthopedic trauma closed fractures and you need to look at all of these individuals, individuals with stress reaction. What are you going to need to do to take care of all of those patients? Because help isn't coming right away. What happens if the plane doesn't come? What's the care that you're going to need to be able to do for them?

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But let me just show you what happened, because the plane did in fact come.
It was a C9 Nightingale, so it's an older airplane for those of you that do remember. So, in addition to just getting the patients ready to go on board the aircraft, what you need to know is that every one of those patients had a saturation of 92% on the ground. None of them were dyspneic except for the patient obviously, who was on the mechanical ventilator and all, so they got them up in the back of this aircraft and they took off and they knew they were going to have to stop once to refuel between the flight from Yemen to Germany, what they didn't anticipate was that every one of those individuals was going to desaturate to less than 90%. Every one of those patients had to be put on supplemental oxygen to get them safely back to Germany. And if you think about that, number one, I've showed you what happens just naturally in the back of an aircraft when you're flying at altitude and oh, by the way, most of these individuals would probably below decks when that explosion went off, which means they may have a pulmonary blast injury as well. So you have to know who your patients are. You have to understand the science of injuries of war. That's what makes it different than the care we give every day. Because we'll never see that. And in fact, they had to stop not once to refuel and during the refueling they actually put more liquid oxygen on. They had to stop a second time and recharge the liquid oxygen on board, and I've talked to the folks about the C-17 and the supply of

oxygen on the C-17. Uh, if you had to do it for a lot of individuals, probably wouldn't make it across the pond, so it's not a resource that is just readily available. So, you have to decide who is going to need the oxygen? How do we use that? How do we how do we control our resources as well? This is real world. This is the lessons that we have to learn.

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So, I wanted just to give you 3 papers as well. When you start thinking about who casualties will be, it is unfortunately our business as military nurses to think to the future. Increased armored warfare. We're seeing that in the Ukraine right now, underground warfare. We had lessons learned from Vietnam and certainly right now we're learning those lessons again. And what happens if we have to go into a very cold environment? So, you take those lessons again and you say, who are our patients? What do we do? What's the environment? What kind of injuries might they have? That's what you need to do to get ready, and that's what you find and where are the questions that I can ask and contribute to in terms of the nursing care?

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Now let me give you another example of something that happened very early in my career that really, I think was probably one of the most profound studies I had to be involved with. Early in the war, there was a battle at a place called Takur Ghar in Afghanistan, and it's captured in the book Roberts Ridge, which is named after the Navy SEAL who was first killed in action. And it was an example of everything going wrong, and the book itself is harrowing. But what I will tell you that's not in that book is that when one of these medics came back, he kept saying I couldn't keep him warm, just couldn't keep him warm. And our surgeon general called down to the Research squadron where I was at, and I picked up the phone and he said there will be no more hypothermia in theater. Fix it. Now I don't know about you, but I don't generally pick up the phone and have the surgeon general on the other end, so I said yes, Sir. And then this was followed almost immediately by several other frantic phone calls from the group up there, and they said so whatever you come up with, it has to weigh less than 7 pounds. Preferably not use any electricity and past airworthiness testing, but whatever else good to go. But they came to us. There was a team of nurse scientists at Wilford Hall. They came to us to conduct that operational research for them.

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That's my colleague, Doctor Joe Schmeltz, Karen Evers, who was a flight nurse and understood that and our team through a series of iterations of studies. We created an animal model and we created an environmental chamber that was similar to what we would see in the combat. Some of those data were drawn on some studies I had done on board the aircraft. We said if it doesn't work on the back of an aircraft, it's never going to work in the field. And I do have to tell you, so this is one of those big walking coolers and I still to this day, don't know exactly how a hole got drilled in the wall that allowed us to put all our equipment through the through the hole in the wall. So we didn't have to stay inside the 34-degree chamber for six hours as well. I don't know how that happened, and I'm guessing the hole still probably there, but after a series of iterations the thing you need to know and what we found with traumas, very severe trauma. It's not enough to simply wrap them up in a space blanket. You don't have blood. You don't produce heat, you have to give heat back to the body and these are the data from the study that was led by Doctor Marla Deyoung that ended up being it was a Blizzard blanket, it's the ready heat. You know that thing you open up and it heat and it heats up. And then we had a little and they had, for lack of anything else, to shower cap to protect the head. Now I think that the shower cap and the external covering has since been updated from that, but these are the data that led to the creation of the hypothermia prevention management kit and the technology that is there is the same technology that is still out in the back of a helicopter today. I, as a scientist, have done my job. But that's not enough. We had a problem, and this is where the joint theater trauma program at that point in time, the JTTS, now the JTS, their first clinical practice guideline that they created was about hypothermia prevention and the interventions that were in that were all of the interventions that we had tested in our lab, blood warmers, the hypothermia prevention management kit. And that's all that that came from. But the question is it was 2006, it was the very first one that that was done. The question is that the end of the day, are we making a difference, and this is where the Joint Theater Trauma Registry comes in. Asking those data and down on the bottom what you can see is that we found even very early on in the war during the winter, we had about a 3% rate of hypothermia in our US casualties as well. And you'd say, well, is that is that any good? And the answer is yes, it's really good because in civilian trauma today, big civilian trauma 13 to almost 40% of trauma victims come in with some degree of

hypothermia. And a recent study that was just done over the extent of the war found that our rate of severe hypothermia was about 1%. So, did we make a difference? Yes, and I'm proud to say that I got to be a part of it. That as a scientist, I got to do my part. The JTS is the evidence-based practice initiatives and the JTR is asking those questions. Are we making a difference and just this last year and the 2023 they updated it after almost 15 years, they updated 17 years, they updated that.
But the exact same interventions are in there, so our interventions are in there.
So if you want to know where that came from, those were nurse scientists that led that particular initiative that I think has made a difference for our for our wounded warriors.

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And you take it the next step further then you say, OK, what's the environment of care? And so, there's seasonal association of hypothermia. They went back and they said, does it obviously, you know, we're going to hire hypothermia when it's cold. Yes, but fortunately not so much because we have these interventions. This one I think, is interesting. We know we're pretty good at tourniquets now, but what happens when you put a tourniquet on somebody when it's very, very cold? They're going to get frostbite on that extremity. It's protective because the extremity is cold, they're going to have some long-term sequelae on there. So you really want to think about what's the next question? Somebody's asked that question as well.

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Now again, I think about the back of an aircraft and if you've never been on an aircraft when it's flying and operational mission, I would tell you if you can get on a flight on a training flight with the AE squadron, the reserve fly out of here out of the out of McCord, get on board the aircraft. If you ever can get that opportunity to see what they're doing to see what the prep is to get those patients on board and what happens on board the aircraft.

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But again, you want to look at what that environment of care is. And this is some research I did very early on. I also have some data on some C 141's, a plane that doesn't exist anymore. But what you can see is really that within the 1st 15 minutes of flight, the temperature in the back of the aircraft drops dramatically and you can

see if you're in the way back of the aircraft it dropped almost 20 degrees in the 1st 15 minutes of flight, and that's not a time that a flight nurse is going to be able to get up and put a blanket on somebody. You're hot and you're sweaty and all of a sudden now you're very, very cold, but you can see that the worst place, the coldest place on the aircraft, is in the back and it's in the bottom or the middle litter tier, where do we put our most critically injured casualties? Their last on to be First off, they go in the middle or the bottom litter tier in the back of the airplane. So why is this nursing research? Because I've got to care for the patient in that environment. An engineer could do those measurements, but I went on with the idea. What is it then, that we need to think about for hypothermia prevention or just to mitigate the effects of this environment on the patients during transport? So again, just for you and just for pragmatics, if you ever have to fly on a C17, if you are more thermally challenged because you're a little bit older, you know you may want to move to the back of the airplane. But if you'd like to be warm, you're going to go to the front. So, this is the reality. So having to think about that, think about where is the care that you're going to provide for your patients as well.

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Now let me show you again how you take it one step further. This is from research that was done by a company that was looking at forehead oximetry compared to finger oximetry and so they put somebody in a cold chamber at 58 degrees.
I showed you that the back of the airplane was 55 degrees, and then what they did was they exposed them through a mask to severe hypoxia. And there was a 90 second delay before the finger oximetry detected any desaturation at all. And we know in the operational environment we are very, very dependent on our technology. So you have to ask yourself, what's the impact of the environment on the patients now that's thermal, regulatory vasoconstriction, but it's the same vasoconstriction you see in somebody who's is going into shock. Anybody ever seen when you've got a patient who's not doing well and you're trying to get the pulse ox to work and you can't get the Dang pulse ox to work? And so, you start the survey of the body. Well, let's put it on the ear. Let's put it on the nose. Well, we'll try and then somebody invariably says, I don't know what's wrong. I can't get this pulse oximeter to work. So, I can't know if my patients sick. Now I will simply tell you everything you needed to know was in that phrase. I can't get the pulse oximeter to work. The reason it's not working is they're not perfusing. You don't need the pulse oximeter to

tell you that, but this is an example then that I have to think about in terms of the care, and I will tell you that most equipment doesn't like cold, it doesn't like heat, it doesn't like sand and it doesn't like moisture. So, if you expect that your technology is going to work exactly like it does here in a deployed environment, you have to start thinking about that now. It has to be tested and we test things all the time. We fly and throw them out of the back of an airplane with a high altitude jump to see if cartridges exploded at 10,000 feet. Those kinds of things as well. So, stop and think about those characteristics. This is the stuff that I just nerd out on. I just think fascinating and this this is the how I come up with the ideas I'm going to do.

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Let me just show you one more and then I'll, I'll wrap up with a few lessons learned. How are you guys doing with pressure injury prevention here at Madigan, pretty good, sweet. You're going to be faced with that same challenge in the operational environment. In fact, what we saw particularly were occipital injuries as well. This is the talon litter which is used now in the prolonged care. It's a foldable litter and I want to point out to these straps that are on there and those straps hit at the occiput, the scapula, mid back, sacrum, heels, and you can see that on this pressure mat. So about 140 on the back of the occiput 256 on the sacrum. Now it's easier for us to offload the head and the heels, but much harder to offload the sacrum and an individual and think about this now. A combat casualty view is very severely injured is on this surface. This may also be their operating room surface. How do we prevent pressure injuries from that and to give you a sense of how bad that is, we use multiple variations. Not only pressure, but we looked at oxygen saturation. We looked at blood flow and we looked at skin temperature because the warmer your skin, the more oxygen you use and the boxes on the right are from the warrior evacuation litter pad that's at black AE Mattress, you guys seen that before? The ones the two in the middle are that vacuum spine board which we use to transport patients with thoracal lumbar injuries. And what you can see is that in fact those surfaces did really very well on the sacrum, the ones on the bottom over here are from the from the talon litter. That oxygen saturation is less than 10 millimeters of mercury. So not only do we have high pressure, we've got low oxygen. That's a pressure also, that's just going happen. The problem is this. That's out in the current operational setting. That is our stretcher in the current operational setting, and we don't have a solution yet to how to prevent pressure injuries. I will simply tell you

this. Putting a blanket under somebody is almost as bad as having them straight on this. A blanket does not serve to reduce pressure. It makes us feel good, does nothing for the patient. This is what it looks like on the black AE mattress. You can see that that you've got better, much better pressure reduction, except for on the head. So, this is again why we have occipital pressures, and this is from a new mattress. This is a prototype mattress. It's still under development, but they've actually got a slit on the sacrum, so there's no pressure on the occiput pit as well. So these are the kinds of questions that you say, what do you do? And nobody's going to ask this. But a nurse, when I did the first testing on the AE Black Mattress, they tested it for air worthiness and will it exploded at altitude and all those kinds of things you have to do. Nobody seemed to stop and ask the question, will it reduced pressure. So they called me and they said, hey, can we send a few mattresses to you and what showed up at my house was a box that was about this big full of mattresses that all the companies had sent in that they wanted to have tested. And I have somehow had to pack those into my little sports car, along with all my equipment. I went down to McChord and did that testing and that's how we came up with the black AE mattress, which I tell you performs as well today as it did when we did that in 2008. But this is the stuff that only in nurse really thinks about and it takes a nurse to say what are all the components of fact risk factors associated with pressure injuries and it's more than pressure.

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How many of you have seen this? So, this is the clinical practice guideline that was developed. It’s the first one that really had nursing in its title and its nursing intervention in prolonged field care. Here's two things I want you to notice; the words “prolonged field care.” That's out in the field. We, as professional nurses, probably won't be out there, generally. This is nursing care provided by our medics in the field. In the most austere environments, and that's how this was written. There are things in there that I just don't understand why they're there, but this doesn't capture professional nursing care at a role one or role two facility in a prolonged care situation. That CPG needs to be written and you guys need to write it. You need to take a step back and say what's really in here and it is really nursing care, which after that initial resuscitation, that's what's going to keep patients alive. But it's going be provided by our medics and they do exceptional work. But that's

not the same as the care that we as professional nurses do. You need to write it, Mary.

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Last couple of things- We need to not only focus on what we know because we know that if we only focus on what we know, we're going repeat the war that we just finished. And that's not enough. So, this is a gap analysis that I did in 2018 as a scoping review to find not only what we know, but really more focused on what we don't know. And somehow, I saw a post-test some places there might be some of that information. So just so you know where that came from, you can identify the research, find the relative that studies you have to go through, and you adjudicate them. And I looked at over about 3500 studies. Ultimately, this report reflects about 1300 and this is fixed wing transport, so it's not even the medevac transport. I've just turned this all over to a team down at Wilford Hall who's doing the CCAT in the medevac to do that again. But it's not only about asking what do we know? It's asking, what don't we know as well?

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Now, here's one of the things that I found out of those 1300 articles. I only found 97 articles that were specific to enroute flight, nursing and under an adjudication only seven of them actually met criteria for inclusion. Most of them were sort of first person. Here's what I did on my deployment kinds of things. It's really hard to write the standards of our care if we're not studying the standards of our care and asking questions about nursing research. So I'm going show you though the things have gotten a little better since 2018, but we've got a lot of work to do to make sure that our voice is heard.

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How do you do that? Again, you go out and you look, and you see. So I have to preface, I am not a flyer, but when I went on board the aircraft and when I fly with the Arabic squadrons, I go on with my research eye and while I was able to provide care enroute which I think they were really surprised a Colonel could do that, that I was providing that care. But I went on. I wanted to see what those medics were doing, the care that they had to give, the challenges that they had so that we could begin to identify the research questions, is to quote Jacques Cousteau, il faut aller

voir? it is necessary to go and to see, and whether you do that now or you go out on a training exercise and you go out with a different lens in terms of what you're looking for.

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This is some research from a study that I did with both the medics on the field. We had data from within 15 minutes of injury on the battlefield, which is really pretty phenomenal. Nobody has that data. I had vital signs and tissue oxygenation at 15 minutes. They one day came back and they said, ma'am we are really sorry we didn't get complete data, but we were taking some incoming fire so we decided we probably should leave and it was like, Oh Ok, I'll let you get by this one time. But what was really incredible was to have that and to have that partnership where these individuals, this is from the ECCNs, these are the army nurses flying that enroute care Mission, 47 of their transports. And what I want you to look at is the complexity of these patients on the 34 of them were intubated, 32 of them had blood products, 35 had had surgery before they got on board the aircraft as well. Time from injury to role two is about 45 minutes. Role two, they were there for about 6 hours and then they had another transport onto the role three hospital. So to ask those questions, a couple things is, number one, we just don't have a lot of data that about what happens during that enroute phase of care and the only people are going be able to answer that are those of you who fly this mission only people are going to be able to do that are the people who fly the mission, they need to sit down. And this would be where you as a researcher say tell me what you need. Tell me what you need to know as well.

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This is an example of what one of those patients would look like. Injuries left pneumothorax. You can see extensive injuries arrived 35 minutes out, Underwent both surgery, got 7 units of blood. This is a 1 to 1 to 1 resuscitation and at 82 minutes so about an hour and a half after the injury are back on a helicopter for a 40-minute flight to a role three hospital where they arrived with their vital signs stable base deficit of minus three, meaning that the patient was not in shock. What does it take to make that happen? And I have questions about what happened during transport. Is it a transport phase or is it a treatment phase? Because if it's a treatment phase, it has to look differently. And again, we'll ask you this. What

happens if the chopper doesn't come? What are you going to do? What's the care that you need to be ready to care for those?

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And if you want to know more about that, early in the war Doctor Morton, they wrote a really nice about the training of the ECCNs. I was the editor of a journal. There's a beautiful piece from the California National Guard, the medevac units, that I flew with to capture. If you want to know, you'd say was 2010, that's a little that was right in highest operational time of the war. You want to get your hands on these documents? That's what you're training to now.

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2018 Critical Care Nurse gave us a gift. They gave us the entire journal, and this is the one that gets handed out at the NTI. This is all research from all three services from the Navy, there's some Air Force and you may recognize some of those. Colonel Simmons, Colonel Elizabeth Mann-Salinas as well. Get your hands on these.
This is the body of research that is growing about operational care, and you can ask yourself, how can I ask that question again?

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The last thing I want to just show you here is really some lessons learned. The Doctors Mayo said, “Medicine is the only victor in war”, but I would amend that to say, but only if we learn from it. Only if we learn from it, we have to learn from our history.

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These are our heroes! They've been through things we could never experience, but we need to understand what the nurses experience on Bataan, Vietnam, and the experiences of the nurses at Landstuhl. Read your history. That's how we're going to come up with ideas for what we need to do in the future, but also to understand where we might be when we don't have air superiority. What is the care going look like if we have to take care of for a large number? So I'm an avid reader as well.

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The second thing is, if you've never read the book by Admiral McRaven, called “Make

your Bed", get yourself a copy or if not, give yourself 15 minutes and listen to his commencement address at the University of Texas, Austin. And it's about the 10 things you need to do to change the world, and one of his lessons learned is if you want to change the world, find someone to help you paddle. You don't do this work alone. I never did this work alone and it has been the teams of individuals who have always said yes. Look around you. These are the people in this room who are going to help you change the world.

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And the last lesson that came was one that really came ten years, probably in the making. I've had the privilege of being the editor of the "Battlefield Pocket Guide". We're close to getting a new edition of it coming out this year. We'll probably have an electronic for you and it really came out of this idea, we didn't have all our evidence in one place, and I reached out across the Army, Navy, Air Force community and said you've got one page to tell me about, whatever. What's the best evidence? What's the evidence we want our nurses, and everybody said yes, so it's really been extraordinary and part of one of my military jobs was I worked at the air staff.
I was the IMH as a director of Air Force Nursing and in doing that I got to help revise the operational competencies for the Air Force Nurse Corp.

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I was at a conference in 2019 and so they were putting into policy, and I was talking to our one of our command nurses. And she said, hey, they're just coming out with the new addition of the competencies. And I thought, oh good, I want to see what they what I want to see they've done. And so, I looked at them. And I said, what happened to the pocket guide? And they said, well, it was four years old, so it was getting too old, so we decided to take it out, which you know, considering the number of references we have that are far older that, but they decided to take it out. And I First off, I didn't want to be at this conference. I was kind of in a bad mood anyway for no good reason at all. But I went back to my hotel room that night.
I was just despondent and at about 2:00 o'clock in the morning, I said to myself, self, it's not about you. It's not about the pocket guide. What was bothering me was that we had gone back to a set of operational nursing competencies that had no operational nursing as resources. And I went back the next day and I said, I gotta tell you, I think that's the wrong idea. And here's why, and I talked with the command

nurse. And she said, you know, I think you may be right. Let me make a phone call and she came back later. She tapped me on the shoulder, and she said, “I just got off the phone with the chief of the Air Force Nurse Corps”. She said, “Put the pocket guide back in”. So, you have to show up. But the leadership lesson for me was not about the book. It's what captured by Rosabeth Moss Kanter. If you've never watched her video on this about what it means to be a leader, you have to show up and showing up means even in your grumpy showing up, it means ensuring that the voice of nursing is at the table, ensuring that someone is considering nursing evidence. That's important, showing up. You have to speak up. If we don't speak up, no one will ever hear us. You have to look up, what is your vision at the end of the day. What is your true north? You have to team up. Never, never give up. Never, never give up, and your job ultimately is to lift others up. That's the leadership lesson that I got out of all of that.

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So, I want you to think about this today, we as military nurses have a privilege very few have, and that is a privilege to care for those who put themselves in harm's way. And it is a part of our commitment and our promise to the men and women who go outside the wire that we will always be there for them.

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If you get nothing else out of today. Be curious. Look around you, be systematic. Asked those five questions about the care that that you give. Remember that enroute care is a Tri-service competency. Good nursing care is good nursing care. Ask questions. Find the gaps. Don't just rely on what we already know. And finally, the most important one that I would say to you is this, the baton has been passed. My career is coming to an end. The individuals who are going write the next body of science, who going to bring us forward, are you? So, thank you so much for having me here today.

Thank you, Doctor Bridges, for your time and being here. We have a small token of appreciation to take into your retirement. There's a travel mug here and something to help you fill it for the first time. So, alright, thank you so much.

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Psychotropic Medications and Active-Duty Service Members: What Nursing Professionals Should Know. David Shearer, PHD, MSCP.

All right, everyone, please help me welcome our second speaker.

Since 2009, Doctor David Shearer has been a clinical and prescribing psychologist for the Department of the Army at Madigan Army Medical Center. He serves as a core faculty member and Director of Behavioral Sciences for Madigan for the Madigan Family Medicine Residency. He teaches a year-long psychopharmacology course to psychology doctoral interns. As a faculty member of the Department of Behavioral Health here at Madigan, Dr. Shearer has appointments in the Department of Family Medicine as an assistant professor at the Uniform University of Health Sciences and a clinical instructor at the University of Washington. His research and professional interest include understanding and evaluating the combination of psychopharmacology and psychotherapy in the treatment of behavioral health disorders, prescribing psychology and primary care settings, teaching psychopharmacology to psychologist and allied healthcare providers, and the development of prescribing psychology in the military. He is the author of book chapters and professional articles on these topics and has presented at over 50 national, regional and state conferences. Please help me welcome Doctor David Shearer.

Thank you. Alright. Can you? Can you hear me OK, my good. Alright.
Well, first of all, thank you for even being here on the afternoon.
We're all kind of post lunch and don't worry if you fall asleep. I'll come sit next to you and keep talking. So, no worries.
So first of all, I think prescribing psychology is anybody heard of prescribing psychology is this new to you at all? We're actually following in the steps of nursing right, other non-physician prescribers, right? And so prescribing psychology nationally is kind of where nurse practitioners were probably 20-25 years ago.
So we are appreciative of that. I'm going to talk today about psychotropic medications. So, it could get dull, if we just if I list things right, so if the more that we

participate, we got a small group we can shout out. That's fine with me. The more that we have a conversation, so I'm going hit these different groups of medications based on treatment. So, anxiety disorders, PTSD, other things that are soldiers, are going to need treatment for. I'm going to talk about the medications that we use to treat those disorders, but hopefully you're going to generate some questions or you're going have some experiences with these things that you like to share.
And would like to talk about with you. So please feel free to just sort of engage with me and if you're don't, I'll probably ask you questions because that's how I roll.
Alright, so let's go ahead and start with seeing if I can advance this.

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Here we go. So, disclosures burn those into your retina. I'm not making recommendations for treatment of any specific person. I will talk about some off label things as well as on label prescribing. Obviously, there are risks in the use of psychotropic medications. Uh, and they can be significant. We'll talk about those today. So, we're always weighing risk versus benefit.

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Here are learning objectives. Might already be there on some of these. Right. Three common uses. So, OK, alright fair. Two different classes of medication used to treat anxiety, even click that off in your head. Do you have those two different classes of medication? Two different classes of medication to use for ADHD. This is a hard one sometimes. And then there's a really important is kind of understanding that different classes of medications can sometimes be used to treat multiple behavioral health problems or sometimes comorbid medical issues as well. And that's when we get sort of into the kind of the higher end prescribing.

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So, are you guys familiar with black box warnings on all the antidepressants? OK, good. So, all the antidepressants have the black box warning saying that for age 25 and younger. We can get suicidal ideation. Has anybody seen that in a patient? OK, uh. Nodding. Yeah, raise your hand if you've seen it. Yeah. Oh, OK, alright, good, good. So have I. When this first came out, I hadn't been prescribing very long and I was like, I don't know. I don't think so. Yeah. And now I'm like, oh, yeah, right. So I've had several cases of people that have had no suicidal ideation in their lives, started

them on an SSRI and they had this fortunately, ego dystonic suicidal thoughts. Now, does the research say that there is there are more suicides as a result of this or more suicidal ideation, or both. Ideation. So, one of the things that you could take away when you when you talk to patients about this because you say, hey, yeah, I know you're really depressed and stuff, and I'm going, you know, I'm going treat you and you're going to start this medication and four weeks from now, you might start to feel better. Putting that aside, by the way, sorry, some people I do need to warn you get have suicidal thoughts and because you're under age 25. I need to tell you that right. If you delivered it in that way, it's not very great delivery, right? And so I talked about, I say, listen, I want you to pay attention to the fact that these medications for very limited number of people, people can get some suicidal thoughts, If that happens for you, I'm just going to stop the medication and get ahold of me. But rest assured, people aren't making more attempts and completing attempts. It's just a side effect and we'll deal with it as such.

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OK, so because I'm going to be talking abbreviations, I just kind of want to run these through. There will be a test halfway through. Just kidding. So SSRI. Yeah, we all got that right. So, this is the classic antidepressants. Call out your favorite SSRI. Zoloft- fine keep going. Don't say sertraline. Zoloft, Paxil, remember. Right. I'm going to say I'm going to be like, oh, I knew that. What else, Prozac? Lexapro and it's Celexa. OK, Luvox is in there, but nobody uses it, so don't worry about Luvox, but those are them. So the NDRI there's only one, it's Wellbutrin. It's a great antidepressant. We're going to talk about that a bunch today. I'm going to talk about the concerns with that. What's one of the things you gotta watch out for with Wellbutrin. Seizure disorder or a lower seizure threshold. Um, but it is a great medication. SNRI- duloxetine. Alright. Yeah, I like duloxetine because it works really well for neuropathic pain as well as depression and anxiety. Effexor is one that I use a lot too. There's the new improved Effexor which is Pristiq. I wish I had a job making up these names. Um, those are great medications. One of the things that you need to know about you really need to know about the SNRIs. What happens when you stop them abruptly for many people. You get a discontinuation syndrome, and it can be wicked. I've seen people get suicidal with that discontinuation syndrome now for most people that's, you know, that's extreme for most people, just really uncomfortable. You get dizzy and feel odd and off and you get a little rebound anxiety and kind of feel uncomfortable.

You can also get those Lhermitte zaps. You guys know what I'm talking about? That you get with MS, you actually get those with discontinuation syndrome. And so you have to warn people about that if your patients are taking these and they don't know this, you want them to know that now they're there are people that. Yeah, they're like, oh, I stopped. And I'm like everything, OK? And they're like, oh, yeah? Well, why? I'm like nothing. Don't worry about it. SARI, is the only one you want to know about. Here is Trazodone what do we use Trazodone for? Sleep insomnia. You bet. SPARIs, you're not going to memorize this, so I'm not worried about it. SPARIs, just not vilazodone, but you know vilazodone is. It's newish. UM vilazodone is Viibryd, which is basically Buspar plus an SSRI. Drug companies caught on that we were doing, that they were like, hmm, let's put it together and paten it. Has anybody heard of DORA? Yeah, this is kind of new Belsomra. Have you heard Belsomra, Lemborexant, Suvorexant? Those are DORAs', kind of a new action. We'll talk about those NaSSA's or mirtazapine is kind of the only one there, mirtazapine is a niche drug. We'll talk about that tricyclic antidepressant. If you're as old as me, you're familiar with those. Bless you. Are you allergic to tricyclics? You might be alright.

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So, we're going launch into Anxiolytics. Uh, but first, what do you call a boat full of psychiatrists? Freudian ship. And you got you guys all know what a Freudian slip is, right? That's like when you say one thing and you and your mother, right. You know that, OK. Uh, no, dad jokes. That's what you get. Alright, so we're talking about anxiety. Anxiety as an umbrella of different disorders. Right, all of which can look kind of different. Generalized anxiety disorders, my favorite named disorder because it's exactly what it is. Right, when you ask somebody who has generalized anxiety disorder, what do you worry about? What do they say? Everything. Yeah, they're like experts at worrying, right? Like I can worry about anything, you know. Like if I get something off my mind, I will worry about something else. Obsessive compulsive disorder, we all kind of know about obsessive compulsive disorder. I will tell you that is under diagnosed and part of the reason that that is under diagnosed is because we behavioral health people. We forget sometimes to ask directly. People don't tell you about OCD like I'm at the end of my intake with people, and I'll be like, oh, by the way, do you ever, you know, count up to a certain number or have a favorite number, or do a lot of excessive cleaning? And they're like, oh yeah. Yeah, I do. Like Oh well, tell me about that. So that's really important to know because the treatment is going

be different. Panic disorder, social anxieties, and phobias. The drugs that we use to treat them, by the way, social anxiety and phobias are best treated by medication or cognitive behavioral therapy? Cognitive behavioral therapy. In fact, actually, if we give people mental diazepine, it will interfere with our treatment. That's not to say that somebody who has like crushing social anxiety and they're going to an event, and they only do one event a year, could get benzodiazepine. That's possible in OK, but if we're trying to cure this, if we're trying to get past it, that benzodiazepine can interfere with treatment. So we use benzodiazepines. These are going to hit the GABA receptors. We're familiar with these you guys probably see these all the time. What's the benzodiazepine you see, most of the time? Ativan. Xanax. I didn't say list your favorite. Ok. Valium, right. So, like we see Valium a lot for preprocedural stuff and whatnot. So, what you're going see antidepressants, it's important to remember this. Many, many, many antidepressants are also anxiolytics, which is helpful because how often does depression go with anxiety? Right. Very, very commonly that they are co-occurring. Now the exception on that that I want you to like if this is the only thing you remember, I'll be happy about this. Wellbutrin is it an anxiolytic? No, it gets dumped in with all the other antidepressants, and then it gets prescribed as a single agent for anxiety. And what do you think happens to people when you dump a bunch of norepinephrine and dopamine into their system when they're anxious? Woo! Right. Like they come back, and they say, well, that was a terrible experience and I'm allergic to Wellbutrin. You guys get that a lot? Their allergic, I'm allergic. The thing with Wellbutrin is we don't want anybody to ruin it for us because Wellbutrin is the secret ingredient in lots of things, and you'll see that later today when we talk about it. A typical antidepressants, not atypical antipsychotic. We're going talk about those later. A-typical antidepressants are these kinds of newer ones that maybe you haven't heard of vortioxetine. For $800 in Monopoly money, who can tell me the name of vortioxetine? The other name? No. OK, I don't know. Trintellix. Mirtazapine you should know Mirtazapine, Mirtazapine is an interesting niche drug. What's its other name? Remeron. Remeron is a and I don't mean this in a mean way. It's a fat pill and it's super sedating like, I promise, if I give you a mirtazapine and you will gain weight. Like, just guarantee, right? There's a couple things I can give you that will be weight gainers; olanzapine or Zyprexa and mirtazapine. But there's a niche for it, and we'll talk about that. And there's some other drugs that we use for anxiety, Buspar. Who knows about Buspar? Yeah. What do you know about Buspar? That was really good. So, none of you heard that. So, I'd like you to go talk to everybody and tell

them now. I'm just going to relax. Umm so the main points that she said is that it's FDA approved only for anxiety. This is its only thing is. It's anxiety and it has very low side effects. Now you said that you think that it can exacerbate irritability or anger. Possibly. I think that's not unreasonable, but generally speaking, Buspar I used to joke that it's like the perfect drug. It has no side effects, but unfortunately doesn't do anything. Um, I've rewritten that I've actually come around to thinking that Buspar actually does do some things. In particular, it's a partial agonist and a way to think about this as a partial agonist is it is, it's like a dimmer switch, not enough serotonin turned up too much. Turn it down and so I added to SSRI's all the time and it's a nice anxiolytic and it will strengthen the effect of the SSRI or SNRI that I'm using.

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Anybody here think benzos are evil? Sometimes, right? Yeah, they can be, but they have a role. Benzodiazepines have a role, and in psychiatric settings we have to be pretty careful about how we use them. They work fast, and they work well. If you want to get a patient to buy into your treatment, right, and think that whatever we're doing is going to work. I have benzodiazepine. I send them home and they take that and 20 minutes later, they feel better and they think that I actually know what I'm doing. Um, right? I mean, there's this buy in to treatment and if I have somebody who is levitating with anxiety, right, have you had a patient who's been levitating with anxiety? You know, I'm talking about right? Like I start sweating when I'm sitting next to them. And they're just kind of like raising that level of agitation and anxiety, particularly if you combine it with depression is a risk for suicide. And so I want to tamp that thing down. If having any suicidal ideation at that massive agitation and anxiety, along with depression and suicidal ideation, when I start an SSRI because our SSRI's take how long to kick in? Four to six weeks. Who wants to hear that when you're depressed? You had to wait three months to come see me. And I'm like, well, hi, it's nice to see you. I'm probably maybe going to make you feel better in about four to six weeks. Of course, I might have to go up on the dose then, I'll start them on both at the same time and I'll taper off that benzodiazepine for the anxiety. Get that and that down while I'm ramping up the antidepressant. So more than three weeks, you know what we say about benzodiazepines is more than three weeks on a benzodiazepine at a regular dose, you can begin to develop tolerance? You guys are probably read all these slides, haven't you? Have you read all these before I talked about them. That's OK. Let’s talk about the SSRIs. Yes, you can use them over the

long term. I like them for that. How long should you use an SSRI for depression? Once you take it, the patient starts getting better. The Depression remits and they say I don't like taking medication. How long should I take this? What's the answer? You can guess if you want to. You could take it forever. First episode depression, one year, technically nine months, but I would say one year. Here's the bad news, more than one episode, forever, you take it forever. Now, nobody goes for forever, right? So, what I say to them is that, you know, don't worry about this. Let's get past whatever difficult thing you're doing now, past a year. And if you want to taper off of it, we can. And then if you don't do well, we can get back on it. The sexual side effects in the waking with the SSRIs are annoying. People don't like it right? The weight gain doesn't tend to be massive for most people on the SSRIs. If you watch what you're eating, it's OK. But the sexual side effects happen for like what, more than 10%? 30%? I got anybody going for 50%? More than 50% these the sexual side effects are really common and you just you just have to ask people that are taking SSRIs or SNRIs about sexual side effects, especially our young soldiers. They don't want to talk about it. They're embarrassed to talk about it. And you know what are they going to do? If there are choices are sex or depression. What will they pick? Which ones? Right. So we need to prepare them for that. And then I I'm going to go ahead and jump ahead and tell you what is the antidote then? You have a patient. They're on 200 milligrams of Zoloft. We like Zoloft. They're doing well. They're depression resolved and their spouse wants to know why they don't find them attractive anymore. And they assume they're cheating on them. They have no sex drive. What do we give them to make that better? What? Always Viagra, Why Viagra? You can give them Viagra. That is an option, but I can give them something else, I can give them Wellbutrin. Wellbutrin, like don't ruin Wellbutrin for me because you give them Wellbutrin. I just schedule to take it every day, but you could actually take it on the days that you want to have sex. But I just have people take it every day, all the time. So, they don't forget, and for the vast majority of people, that resolves it. The other one, if you can't use bupropion because they have a seizure disorder, you can use Buspar, which actually has better data on improving the sexual side effects of the SSRIs. So really important to remember, if you have somebody that that is doing great on a drug for depression, but they're having those sexual side effects and they're going to bail, tell them that we have something for them because we do, which could include Viagra or drug holiday. What's a drug holiday? Amsterdam. What did you say? Yeah, technically, right. (laughing) So tell people where that's not

what we're doing, but it's a good idea. So, drug holiday, will be like taking a day off, right? But here's the thing. You take a day off from your drug, you have sex. That's reinforcing. We have a question. Right away, that's such a good question. It's actually like a side effect like starts right away. Yeah. Remember, because with the Wellbutrin, um, you can use it PRN, so like, you know, like, hey, I'm feeling frisky. Go get my Wellbutrin right. It's going to work right away. And lowest tolerable, lowest effective dose for that too. You don't have to go high on the dose, OK.

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Tricyclics are good anxiolytics they are. But why don't we like them? Side effects, right? Has anybody seen anybody taking amitriptyline nortriptyline? What does it do to them? Makes them really tired right? So, like we use it for a sleep medication sometimes and the other problem with them is we're using them often as an antidepressant and in small amounts of overdose, we can cause fatal arrhythmias. So we have to be very careful. Nobody with suicidal ideation, especially with attempts by overdose, ever gets a tricyclic from me. And you might catch somebody who's on a tricyclic, as you know how that is, we work in silos, right? So neurology is over there, family medicine is over there, psychiatry is over there and the neurologist is like oh, amitriptyline will help you sleep, and your headache will go away. True. And then they give them 90 and I'm not beating up on neurology. It's just that we're not communicating well and if you see that, you'll let them know because they would return the favor for us. Hydroxyzine is, who knows Hydroxyzine. You guys know hydroxyzine has a lot of uses, right? I use it for sleep and acute anxiety, right?
If benzos are not an option, or we don't want to do a benzo, hydroxyzine doesn't work just like a benzo takes a little bit longer to kick in, can make people sleepy, but it is an alternative. And we've talked about Buspirone or buspar the other name for it.

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OK, ADHD. So basically, for ADHD you got two choices. Got the amphetamines and you got the methylphenidates. If you're going to go with the stimulant. So the drug companies have, I mean, I could have made a very long list of all the different brand names and all the different delivery systems that we have for stimuli, medications, right? We got Daytrana. Anybody know Daytrana, the patch, right? Is put right on your forehead and no ADHD all day long. Um, Vyvanse, lisdexamfetamine who Vyvanse is really popular these days, yeah. Ah, we're going to talk about that. So,

does it work for depression? It makes sense that stimulants that increasing dopamine would be an antidepressant, but the data on it suggests that it is not so. However, there does seem to be a role for stimulant medication with SSRIs in geriatric patients with vegetative kind of melancholic lack of energy, and I've done that multiple times. Just start them at the same time and I've seen some really good results with that.
Of course you've got to screen them for cardiac issues, right? So really, you're just choosing between these two. In general, the amphetamines are preferred for adults. Seem to be just a little bit more effective. So you're going, you know, the strategies on this when you're using these medications, if one doesn't work, just switch to the other class and you can switch back and forth till you find something that works. Vyvanse by the way is a pro drug, meaning that their idea was that it is not activated until it is broken down in the liver and then it becomes an active metabolite. And so, there's like this delay between taking it and getting experience which people thought would make it less abusable. There is a new one Jornay. Have you guys heard of Jornay? I don't know if I'm pronouncing it right, but it looks like Jornay and it's you take it at night before you go to bed. And so, as a delayed release for the morning, so nonstimulant, some people can't take stimulant medication, right? I've got patients with Raynaud's and it is just really bad for their Raynaud's, it exasperates it if they're taking stimulant medications, but they have a terrible ADHD. We have some other choices. They're not as good as stimulants. Stimulant medication is hands down the most effective first line treatment for ADHD. It's very good. And by the way, very safe. Like if we make sure that peoples cardiac functioning is fine, there's like no history of sudden cardiac death in the family or anything like that, we're good. So you can use other things. The NRI Strattera, has anyone heard about her Strattera? I haven't found it very helpful. It's not been great. I have a few patients who do. Well, there's a new one, Viloxazine. The more V's, X's, and Z's that you have in a drug, the more effective it is, right? So, this is a very effective drug called Qelbree, and it is, it does appear to be more effective than Strattera. We use guanfacine and clonidine in kids, tamp them down a little bit on the hyperactivity. Well, there's Wellbutrin again, right, like my favorite drug. Wellbutrin uh, because it tightens up cognition a little bit for ADHD off label. These are off label armodafinil, Modafinil. They're wake promoters. Pitolisant, have you guys heard of Pitolisant yet? Um, that's a histamine 3 antagonist. A whole new way of looking at things, that's called Wakix. Guess what it does? I could do better than that.
I know I could alright.

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Closing the pros and cons we can look through these pretty quick here. So, they're effective, rapid acting. These are good medications. Obviously, we worry about abuse, diversion, exacerbating in the underlying cardiovascular issues, there is some growth suppression for kids. Usually they can bounce back and there's hopefully appears to be no long-term lifelong change and expected height and weight with the use of that. Non stimulants. Uh, yeah. You're not going to abuse them, but there may be not quite as effective, but it's an option.

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And took a look at the takeaways here. Any questions about stimulants?

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Mood stabilizers gets more interesting. I see a lot of bipolar disorder or treat a lot of family members, and I treat a lot of young family members. It's sort of. I grew up in a small town, got married, spouse joined the military, moved to Washington State and things are not going well. Away from the primary spouse kind of away from their primary support system. A lots of stressors. And they'll have a first event or episode, and or they'll come in with depression. Rarely do we see people come in with hypomania complaining. Right. Yeah. Hey, Doc, you've got to help me out, man. I painted my entire interior of my house in the last two days, and I don't need to sleep. And I'm having a lot of sex, please help me. We see these people when they're depressed and they don't tell us they've been hypomanic or manic because they're everybody's a bad reporter about that. And so one of the things that we can do with antidepressants, which we don't really want to do if we start somebody with an underlying unidentified bipolar disorder, we put them on an antidepressant. What can we do? We can shove them right up into a hypomanic or first hypomanic or manic episode, and I've seen that many times. And we can stop on that really fast. They don't need to get into the hospital. I use most of the time I use a Zyprexa which is an olanzapine. It's atypical. anti-psychotic, super effective but also very much a weight gainer causes metabolic syndrome over the long term but for short term use, I've kept so many people out of the hospital with olanzapine. It's just been amazing and sometimes I'll add a benzodiazepine for the agitation as well. So anticonvulsants, these anti-seizure drugs are great mood stabilizers. I like Lamictal a lot. You guys see

Lamictal, Lamotrigine very safe, very effective. The only thing we ever worry about with Lamictal really is Stevens Johnson syndrome. One in 2000, people that take Lamictal can get Stevens Johnson syndrome. So, and unfortunately 10% of people who take Lamictal could get a benign rash. So, we tell them to watch for rash and stop the medication if they get one. Carbamazepine- I hate Tegrital. Tegrital is just difficult to use. It interacts with everything. It metabolizes itself after a while, not right away. It just waits for a while and then metabolizes itself and screws up your dosing. So, I don't use it very much. I'll use Oxcarbazepine, which is Trileptal, which is the new improved carbamazepine. One thing you got to worry about on that is hypernatremia. You just track that. Pro 8, Depakote great mood stabilizer. But we're getting into the big, big drugs, right? These have big side effects, potentially. Lithium. Lithium is the gold standard for bipolar disorder, but not for all bipolar disorder. You're rapid cyclers or mixed episode people aren't as great on lithium as kind of your classic bipolar person who has this clear two weeks of hypomania, or mania, followed by inter-episode recovery and then like a crushing depression, they come back up. These people often tend to be high functioning, capable people. Lithium is a really good choice for them. It has a narrow therapeutic window, right? We all know it's got a narrow right, like, not enough doesn't do anything and too much. You're toxic, and so we get trough values on that to make sure the blood levels are okay. The conventional antipsychotics? Yeah, they are coming back into style. People are using them more now. Uh, but those are also mood stabilizers. I don't use the conventionals most of the time because I can use the atypicals as mood stabilizer. Your average person with bipolar disorder that I see is going to be on a mood stabilizer like Lamictal and an atypical like Lurasidone. And probably a lower dose SSRI for anxiety, although there's no, there's no research backup for using the SSRIs in these patients. Once you've stabilized their mood, you can add a little bit of an antidepressant without shoving them into a hypomanic or manic episode. But you have to be cautious.

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Kind of talked about that. The big thing on the conventional antipsychotics, tardive dyskinesia extrapyramidal side effects that we watch for. Tardive dyskinesia, the risk for tardive dyskinesia is 5% per year that you use a conventional antipsychotic. It's late in the afternoon, but can anybody do any math? Uh, well, we all know that schizophrenia, bipolar disorder, and schizophrenia just go away after a while, right?

Oh, they don't, right? So, you're going to be on this medication forever. So if you have a liability of 5% risk of tardive dyskinesia and you take it from the next 20 years, anybody? Did you get it? OK, it has a one in it, so this is why we all switched over to the atypicals. That's why we see the atypicals all the time. But the atypicals have a problem too. What problem they atypicals have, metabolic syndrome? Does anyone remember what metabolic syndrome is. It is not a superhero. Be great name. Right? Metabolic syndrome is umbilical weight gain, prediabetes, hypertension and hyperlipidemia, and some are more likely of the atypicals to cause that than others. Bipolar disorder, 100% you're going to have to have a medication and have that conversation with the patient, that once they're diagnosed that you will be on medication for the rest of your life. True also for schizophrenia, right? Umm, it was in vogue about 20 years ago to say that medications weren't necessary for those folks, and that if you just sat quietly with them, they would get better. Anybody want to volunteer to do that? Okay.

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And the really common thing with bipolar disorder is people do what with their drugs. Stop them, right. Uh, nobody likes taking drugs and they take these medications and they're like I feel better. I felt better for months. This is stupid. Why am I even taking these, right? And so, then they stopped them. And then they crash, and then they see me again. Or also very commonly and very understandably, they feel flat because they're used to having those hypomanic episodes that they're really productive and people build that into their life, right? We all have big brains, so they're like a lot about every 3-4 months, I get a lot of crap done and so if I don't have that, I don't get a lot of stuff done. So antidepressants. You could see them here. We've talked about all these. I told you I don't use the MAOIs very much, I don’t at all, actually. The tricyclics. We'll talk about how we use those. We'll talk about some of these. It's interesting. These atypical antidepressants, who's heard of Zuranolone? That's because I made it up. No, it's not really. Uh, so Zuranalone is a neuroactive steroid that is FDA approved for postpartum depression. It is a limited amount of time we give it to people. I believe this is the oral. There's an infusion and an oral. I believe this is the oral form for like 12 days postpartum and that's it. After 12 days, then you stop it, but it is specifically being used only for postpartum depression. Will that continue? I think we'll probably see it branching out. We'll use it for some other things, but right now that's where we're at. So brand new like nothing

else. We're not doing anything else that looks like zuranalone. Brexanolone is the other one and I think brexanolone is the infusion one, which was like $30,000. But has anybody here when the patient got brexanolone, we had one, the person got brexanolone here and you must be in the hospital basically in a bed and observed all the time for like 36 hours or something, can't breastfeed. Zuranolone is much easier to use, so this bupropion plus dextromethorphan. What does dextromethorphan? What is lean no? Just kidding. What's that? So it's cough medicine, right? But it is a cough medicine with a little bit of, you know, abuse potential. Right. You heard of that? Umm, not my favorite thing to do on a weekend, but apparently some people, that's what they do, and we've added Wellbutrin to dextromethorphan and called it a Auvelity. And the FDA pushed this through really fast. You know why? Because it is anti-suicidal in the first week. We have very few things that are anti-suicidal and we have response in the first week too which I guess I'm saying that right. But like, remember that four-week thing like right away, I haven't seen it. I'm sure it costs a billion dollars, so we haven't seen it here yet, but you will eventually see this. Now you can't just send people home with a bottle of cough medicine and Wellbutrin, right? I knew you were thinking that right like that. I've got some right here so, but that's hopeful, right? My personal hypothesis about this, I think you know dextromethorphan is a bit of a euphoric drug. It can have a euphoric effect and I think that's part of what's happening there, but it may be more complex. Esketamine, who knows what Esketamine is? Uh Spravato, have you heard of Spravado? Have you heard of Ketamine? Right. Every horse's favorite drug. So as ketamine and I'm sure you've all know that we've been using ketamine for depression. So as an infusion, it's ketamine and an intranasal spray way easier, right? Esketamine or spravado. Umm and anti-suicidal, by the way. Yeah, I know. Right. Like we're getting, we're we have more. We don't have that many drugs that are anti-suicidal. We've got those two, we've got lithium, we've got clozaril or clozapine, which is anti-suicidal. So, we're starting to rack some of those up. And for a really at-risk patients, it's great, yeah. Right away, 24 hours. Like how long does it last and how do you dose it right? So, for spravado, pros and cons pros 24 hours you have a turn around on the suicidal ideation improvement of mood. The improvement of mood on the ketamine drugs tends to be kind of like this and then like this. And so, what we do is we sort of go well, let's get an antidepressant on board while we're starting that esketamine. Right. So we take care of that suicidality, we get an antidepressant on board some psychotherapy, so that's how we use it. There is trying to figure out how to maintain

that. So, you can get boosters on that as well. Adjunctive, I'm just going to mention that really quickly. You're going to see this at some point. There's something called treatment resistant depression. What percent of people don't respond to antidepressants? Any guesses? Don't say 100%. You'll make me feel bad. Uh, 30%, at least 30% are just not going to respond well for these medications. There could be a lot of reasons for that and make sure you get the right diagnosis right. To make sure you're not treating bipolar depression when and you think it's unipolar depression, but all things being equal to people just unipolar depression, 30% are not going to respond, we have to have strategies. And so it turns out you can add things to the antidepressant to make them more effective. T3 has good evidence for. Low dose lithium. You don't even have to track the levels because you're using such a low doses on an esketamine also, right? So, there's a lot of things that we can do now. We can add and you might see this when you're looking at the patients' chart. If you see some things and you're like, what are they doing right? Like you can remember that this is one of the things that we can do.

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Talked about that pros and cons. I am really into avoiding the TCA's unless you know the tricyclics. If you have insomnia, migraines and depression and you've never been suicidal, you might get amitriptyline from me, right? Like 3-for one. I like that and it works pretty well. Uh, and you might be on Zoloft, and I'll add 25 milligrams, amitriptyline, which is enough to help you sleep, manage the migraines as well, and then boost my antidepressant.

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First line SSRIs, SNRIs and Wellbutrin. Talked about the treatment of side effects. Let's just tells you how much we care about our sleep. Right? Like, Yeah, and how well the drugs work? Kind of. Do you know what the first line treatment for insomnia is now? Have you heard? What's that? Benadryl. Dextromethorphan. No. The CBTI, have you heard of CBTI? Cognitive behavioral therapy for insomnia haven't heard of that? Don't feel bad. It's kind of new, but medication is not considered first line anymore. CBTI is considered first line, but I got to tell you, that doesn't matter to my patients who don't want to do it. Or who say they've done, and they don't respond. So, then I still have to have a medication, right? And I can tell you I'm not doing CBTI with my bipolar patient who's sleeping 4 hours a night. Right, like, well, let's hope this works

right? Cuz nothing like no sleep to make them have an episode. So, we've got the benzodiazepines. They work great for sleep. Just don't want to do it long term. Z-drugs. Guys familiar with drugs, right? Zolpidem is Zambien. Name, another one. What's one of your favorite Z drugs? Lunesta, I love Lunesta yeah. There's a Zaleplon or Sonata, so these hit GABA. Somebody help me out with this. This hit GABA A right. So this is GABA A&B and I think it's Gabba A is responsible for this sleepy part and GABA B is responsible for the anxiolytic part and they're like well. Let's just hit GABA A for the sleepy part and they won't be addictive. Yay. Has anybody ever seen anybody get the problems with the Ambien? So problems with Ambien, I had somebody taking 180 milligrams of Ambien a day. What's the Max dose of Ambien in immediate release, anybody? Yeah, that was so good. 12.5 of the CR and ten of the immediate release. She was taking 180 a day. Uh, and I was the last to know, you know? So, we figured out we got her into treatment, and she got better. But these things can be slippery slopes. Mostly the problem was with the Ambien. Also, Ambien has that problem where you don't go to sleep and you stay awake and you make promises to your spouse that you wish you hadn't made the next day, right? Or people wake up and they're like, there's a pot roast. But I live alone. Yeah, so. Problem with Benzodiazepines, and then there's always the story, whether it's true or not, the soldier who ended up out outside the wire in they're underwear with their rifle, right. They're never going forget the rifle, but they will crawl outside in their underwear so can be problems with that. I like Lunesta a ton. Lunesta is clean, people don't feel hungover in the morning. You can use the long acting. Nobody tells you this. You can use the long acting uh Z drugs indefinitely. Now people would yell at me for saying that, but if you look at the guidelines, you can, and some people do well on them and you're never going to go up on over the Max dose. So, if it stops working, it stops working. I had people that have been on Lunesta for several years who are still going strong and doing very well on that medication and when they stop it, not just rebound, I know what you're thinking. I have them stop it for a long time and we try something else, and we go back to Lunesta, and it works better. So Lunesta does really well. The only thing with Lunesta like one out of 20 people would get like a metallic taste in their mouth, and then that usually doesn't work very well. Is there still a caution on males versus females and dosing of the Ambien? Yeah. So the question was, is there still a dosing difference for Ambien on males versus females? Yes, because it's an issue of like body mass and so that's recommended 5 milligrams of immediate release for women and 10 milligrams for men. Or, if you're

going to go up on that, that you need to caution the patient very carefully about not driving in the morning, or operating, you know, a backhoe or whatever they're going do so. But that is still a thing. Thanks for mentioning that. Trazodone, you know what Trazodone actually on paper is not the greatest sleep medication, but it is the one I see the most. What people complain about on Trazodone? Hangover. Yeah, they feel tired the next morning and kind of into the next day. I like Doxepin instead. You guys know Doxepin? There's Doxepin. It's a tricyclic antidepressant that was repackaged as a sleep medication like normal doses of Doxepin for depression and anxiety 150 milligrams, for sleep 3 to 6 milligrams. Works really nicely. Hydroxyzine for sleep, safe can be effective. It's really nice to use that one if you don't want to use a benzodiazepine 50 to 100 milligrams at night will do it.

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We've kind of talked about I these issues. The DORAs haven't seen them, the belsomra you know the dual orexin receptor antagonist. We'll see. I don't know. I've tried one patient on them, and she didn't do well. Melatonin, does anyone take melatonin, it could be your friend. The melatonin, like 2.5 to 5 milligrams should go up to 10 milligrams on melatonin safe and effective. It just kind of boost it. Your body starts making melatonin after it gets dark anyway, and so you're just kind of boosting the thing that's going to help you kind of with that sleep drive. Um, tricyclics. We already know what the cautions are in the tricyclics. I would never use them just as a sleep drug.

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Ok, here are your takeaways.

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PTSD. Ok, very relevant to us. What is first line treatment for PTSD? Did you say dextromethorphan? What's that giving your time? Dancing. Oh! wait, what? Um, anybody know first line it some form of exposure therapy, not medication. Used medication used to be in there. They took it out. Medication isn't there. We treat around PTSD now with antidepressants. Do we use atypical antipsychotics with this anymore? No. Do you guys? Does anybody of you, any of you remember when everybody with PTSD got quetiapine for sleep, everybody got 25 milligrams of quetiapine for sleep. That a study found out with where it was just Risperdal all with

PTSD, where they found out there were no advantages of using the Risperdal. So, they said the VA DoD guidelines said no more atypicals. So, we don't use atypicals with them anymore. A trick I'll tell you about beta blockers, right? Because people talk about beta blockers and anxiety a lot. Here's what I think because the data is mixed on them. Here's what I really think about them. If your anxiety or agitation occurs because. You're standing here, and you think my heart is starting to pound. Oh my gosh, I must be anxious or angry. Not sure what I'm doing now. Let's try that. If that's how you get anxious the propranolol is great because it's going to block that sympathetic nervous system, right? But if you go, I think I'm anxious. And then your heart starts to pound. I don't think so. I don't think the beta blocker so much. That's how I kind of decide on who I might use that with, under what circumstances. We should talk about Prazosin, right? What are we using prazosin for? Nightmares. Prazosin is Minipress was a not fantastic antihypertensive. It's an Alpha 1 antagonist for a norepinephrine, blocks norepinephrine in the areas where we're kind of having dreams and kind of long-term memories consolidation around the amygdala as well the hippocampus It turns out that if you block that, people don't either have nightmares or don't remember their nightmares, and that's just as good as not having nightmares is not remembering your nightmares. The data is almost all really, really good, except for a really, really good study that was done recently that was really mixed. And so I ignore that and so does everybody else, because we got nothing else Clonidine. Everybody's like, use Clonidine. Same deal, right? Doesn't work. Prazosin works. It works for most of my patients and at low doses. Side effects on Prazosin number one side effect. Anybody guesses? That's so weird. No guesses? You can guess anything. I mean like as anything if you want like and insomnia. No. Hiccups, no. You can get a dry mouth from that. That's it's nasal decongest. Nasal congestion. Right. I mean, it's just, yeah, I only have known one person who had that horrible nasal congestion. What I really get is orthostatic hypotension on this right, this is the two step, what I call like when patients they hop out of bed, they go towards the bathroom one, two they knock out their front teeth on the toilet. Right. And that's why I tell everybody that so that they are alarmed, and I say you have to sit on the side of your bed for 60 seconds with these drugs. But I would say guessing about 70% efficacy for me with those drugs and I don't have to go real high on them.

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Let’s see. Talked about prazosin, we talked about beta blockers, we kind of hit all the takeaways. Psychosis is going to result in the Med board, but there are other psychosis that can happen, right? There's brief psychosis. You can get a psychosis by taking Crack. No, just kidding. You can get psychosis by doing like weight loss supplements and then adding like a bunch of caffeine to whatever weird thing that you're taking and then right so you can start to add some things up until you get psychotic because you're not sleeping. And I've seen that happen. There is a such a thing as severe depression, with or without psychotic features. Does anybody seem depression with psychotic features? Umm, you have to treat it with an antipsychotic. Yeah, but it's not long term.

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So not surprising that we treat psychosis with antipsychotics.

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UM, we already talked about the risks, right? Tardive Dyskinesia (TD), EPS Extra-Pyramidal side effects talked about the metabolic syndrome with the atypical.
So I'll tell you about the atypicals is they've developed a few atypicals that do not have as much risk of metabolic syndrome, lurasidone or latuda. Anybody heard of that one? Category B for pregnancy. Right, because there is no law that you cannot have babies if you have bipolar disorder or schizophrenia, it might be required, I’m not sure, but we need to have a drug that we can give them. And I've seen people go through their pregnancies very well on those medications, very well managed and some of these medications, even some of the newer ones, there's one Lumateperone. OK, think it's caplyta. It's 42 milligrams. That's it. So, titration, I'm like here I'm done, right takes effect within like 3 days. Super well tolerated doesn't seem to cause metabolic syndrome cost a whole bunch for another six years.

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I have about 0 time. No, I'm giving you extra time. I'm so sorry guys. I will go fast. I will be a fast speaker. Just want to because we're going to want to talk about soldiers a little bit here. I want to talk about CENTCOM MOD 16. A waiver is required for all of these listed below. It's not a comprehensive list.

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So, if you're diagnosed with psychosis, well, psychotic disorder, bipolar disorder. Those are disqualifying. It's going to start at board. You need a waiver for these, though, and you may not. You may be surprised to hear this. You know, chronic insomnia with regular long-term use of any sedative that's going include, I have not said it, hypnotics are going to include Z drugs. Uh, obviously use of benzodiazepines.

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ADHD uh for stimulant use. OK. On the noncontrolled but for controlled substances. I need that by the way, anytime I start a psychotropic drug for an active-duty Soldier, they have an automatic 90-day temporary profile right undeployable unless they get a waiver.

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Uh, substance use. You can kind of read this yourself. There are possibilities. But these are the requirements around that.

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Polypharmacy of psychotropics, which is more common than not.

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Key Takeaways. And that's it. Any final questions guys? If there is a service member having anxiety and depression they will serve, yes. 100% so that's a really good question. So I have patients that are active duty, have highly responsible jobs and they have PTSD, anxiety, depression, ADHD, you name it, the gamut, and are all functioning well and doing great. They sought treatment. They're getting great treatment. They're doing fine. You know, if you, if you look at the percentage of people, if you just look at base rates of things like depression, which is going to be somewhere around like men and women like 15 to 20% like you take any crowd of 100 people. I just start counting off like how many people get OCD? How many people are Bipolar? How many people get depression? How many people get anxiety right? Pretty soon, like everybody can raise their hands at some point, right?
So behavioral health issues are ubiquitous, and part of the human condition, and I've really seen a positive move around medicine. And the Army here where really seeing people being able to go ahead and function in their positions and not be discriminated against because they sought treatment. No, great question. Thank you.

Question online.
That's what are your thoughts on mushroom therapy or MDMA for treatment of PTSD? So, psilocybin or MDMA, ecstasy, so that I'm not as familiar with the MDMA research, although I understand that there have been some promising results on MDMA for in particular for PTSD. And psilocybin I'm familiar with that, the treatment for depression. And I can tell you that the data on depression is really good.
Uh, completely new approach to managing depression and treating depression. And we're seeing with one treatment of the psilocybin we're seeing continued response like out to six months or more as an antidepressant. So I know that they're applying it now to considering it for PTSD as well, like MDMA. And I think there's been some promising early results, but I don't know more than that. Good question. Alright, thank you guys for hanging in there with me. Have a great afternoon.

Thank you, Doctor Shearer. We have a thank you gift for your time here as well. A little uh mug and some just fill it with as well. OK, there's a cough medicine or not cough medicine. (Laughing) Thank you so much.

Or anybody who didn't get a chance to sign in when you first came in, please do so. We have to account for everybody who's here in person and we will be downloading the online roster for everybody who's online. If you have trouble getting this ease at all, please feel free to reach out to me and I will be your point of contact for that. We thank you for your time and I had the dates. Our next nursing ground rounds is 16 August. It'll be Friday. The time will be different that time because it will be 11 to 1300 and then we will have one in November and next February. So save the dates on your calendars for those events. Thank you so much.

◉ **Vailencour, Jessica Marie CIV DHA MADIGAN AMC (USA)** stopped transcription