Speaker 1:

So our next lecture is going to cover sexually transmitted infections, HIV, and their evaluation, prophylaxis, treatment and education. And I do want to bring to your attention approximately two days prior to this recording the Centers for Disease Control, CDC, did release their 2021 guidance on STI treatment, so I encourage you to download this reference, look at it, specifically there is a section for sexual assault, and make sure that you know what the current guidelines are.

So for consideration, so it does say within the guidelines by the CDC that these guidelines were based upon what we know about adolescent and adult female sexual assault survivors but we also apply what we know to our male survivors as well. So the question also often comes up, do we treat for sexually transmitted infections empirically or do we obtain baseline labs, and this needs to be a conversation that you have with your patients.

They need to know that depending upon the timeframe of their presentation, it very well likely could be that a positive result is not from the assault or the experience but a prior sexual contact. So this again needs to be a conversation with your patient and they may have questions about if they get tested and they're positive, what does that mean? You know, for any legal implications. And that is going to be kind of beyond the scope of our practice, but there are legal considerations and there are rape shield laws that do apply in those instances.

And then what frequently diagnosed infections are we going to see? And in general, we see commonly diagnosed infections in sexually active patients who are not sexually assaulted, so gonorrhea, chlamydia, trichomoniasis, are going to be very common. So the testing that's recommended includes the nucleic acid amplification test for gonorrhea and chlamydia at all the sites of actual or attempted penetration.

So that could be vaginal, anal, or oral as well. And then women should also be offered testing for T vaginalis, [inaudible 00:02:27] considering a rapid HIV test as well. And then if you are going to be administering HIV nPEP, we also need to consider the liver and the kidney function. Those patients who are capable of achieving pregnancy, a pregnancy test is important because it can affect the medications that we prescribe to best protect the patient and the growing child. And then we should also consider the serum samples for HIV, hepatitis B and C and so forth.

So this is what you're going to make sure that you reference the CDC for, as their guidelines have recently changed. So it should be [inaudible 00:03:19] 500 milligrams plus the doxycycline 100 milligrams, [inaudible 00:03:24] for seven days to cover empirically for gonorrhea and chlamydia. And then also their recommendation for metronidazole is now changed as well. I believe it's 500 twice a day for seven days. So I apologize for what's on the screen, and make sure that you thoroughly read those 2021 guidelines and have them printed and available for your ordering provider and in the binder in your room or for your program.

And then also considering hepatitis B and HPV vaccine series if the patient is not already vaccinated. If we have a patient and the person who assaulted them is known to have hepatitis C, then we also need to consider the immunoglobulin for these patients.

So let's shift our focus specifically to HIV at this point in time. So we do need to evaluate each patient's risk of contracting HIV with sexual assault. And you can see this algorithm here where the CDC has divided this into substantial and negligible exposure risk, and then they are further defined in those rectangles at the bottom. So considering what your patient was exposed to, with what bodily fluids, and whether we know the patient to have come in contact with someone who was HIV positive, or whether that's known or not. Generally we do not know.

And then the next step is considering the timeframe with which they present in. So if it's been over 72 hours since the time of the assault it is not recommended to provide in nPEP. But if it has been 72 hours or less since the potential exposure, then they are eligible for in nPEP, and then considering the individual risk factors again.

So this table, and again from the CDC, is the estimated per act risk for acquiring HIV from an infected source by exposure act, and that second pink row where you can see sexual there, those are the acts that we're considering generally, and you can see that receptive anal intercourse has the highest risk and then receptive and oral intercourse are the lowest. And then the insertive penile vaginal intercourse is the third from the bottom in that middle section, probably the most common that we see is kind of middle risk there, four per 10,000 exposures if the patient is in contact with someone with known HIV.

There are some factors that can increase the risk of HIV transmission and this can include if the person they were exposed to was an acute or late stage HIV infection and had a high viral load. Also whether a condom was used and whether the patient that you're seeing had a preexisting sexually transmitted illness or any sort of open lesion on their antigen fall area or wherever they may have been exposed to.

These are the prophylactic regimens that are recommended. So option one or two are probably going to be the most common that you're going to see at your facility. It's important to know what's on your formulary and to ensure that you have an adequate supply, especially if you're going to be in a deployed environment or a remote environment, to ensure that you have a 28 day supply for these patients.

So cost is often listed as a factor for providers for reasons not to prescribe. So the cost of this 28 day supply is going to be around $2,000 when it's prescribed within DOD, which compared to our civilian counterparts, listening to a webinar from IASN, it is cheaper in the military as our civilian counterparts normally pay $3,000 to $5,000 for this course of treatment.

It is recommended to give the full course, the 28 days, rather than a three to seven day supply. It does help increase adherence. It actually is cheaper to provide the full day supply, they come in bottles of 30 in the pharmacy, than if you only prescribe three to seven days, the pharmacy opens that bottle, gives the three to seven days, then has to get rid of the extra medication that they did not prescribe. And then when they are followed up in the clinic and they get the remainder of the supply, they have to open another bottle, so we do recommend giving the full 28 days.

So considerations, it is important to start as soon as possible. So if at all possible, we'd like to give this first dose while they're there with us there in the clinic. What we don't want to happen is to prescribe it, they sit through a five hour exam, and then they go to the pharmacy and sit for another hour or two, and then they're exhausted by the time they get home and they don't take it until the next day.

So getting the medication from the pharmacy and having them take that first dose in front of you, and then reminding them of when the next dose that would be due would be ideal. There are times where we need an expert to weigh in on the medications that we're choosing and those preferred regimens, as you saw on the other screen. So if the suspect was known to be a HIV source, there are resistant strains out there so we want to choose the best regimen. So consulting your IV folks would be important for that, as well as if your patient is pregnant, might be pregnant or is breastfeeding.

If they happen to be hepatitis B positive, there is a portion of the antiretroviral meds that may contain the [inaudible 00:09:58], and that has active activity against hepatitis B, and once that

medication is stopped there is a risk for severe exacerbation. So IV or GI evaluation would be critical in that instance as well as if they have reduced kidney functions.

I've already talked about providing the entire supply at one time versus just that initial starter pack. And then considering all the other medications that we're providing our patients. So antibiotics, whether that's doxy, [inaudible 00:10:36], metronidazole, and then emergency contraceptives as well, along with these antiretroviral medications, can really do a number on the GI system. They all can cause nausea and vomiting and frequently do. So please consider giving an antimedic, you know, [inaudible 00:10:57], whatnot, prior to administering these medications.

So some unique considerations, so if the patient is already taking pre-exposure prophylaxis, do they need post-exposure prophylaxis? So just in case you're not aware, pre-exposure prophylaxis is frequently prescribed to patients who may have high risk sexual practices, probably the most common one being men who have sex with men. And if they are taking this consistently as prescribed, it reduces their risk of contracting HIV by about 99%. So if they are taking the medication as prescribed, they do not need to be taking PEP on top of PREP. Now, if they are not taking it as prescribed, or maybe they haven't been taking it for the last couple weeks or something, then it would be recommended, but you can also contact infectious disease for this question as well.

What if a patient had previously been prescribed post-exposure prophylaxis? Do they need it again? So I always like to equate this to if I work in the emergency department and I was stuck with a needle, a dirty needle, three months ago, and I completed the occupational post exposure prophylaxis, and then unfortunately I get stuck with a dirty needle again today or a sharp instrument, do I need it again? And the answer would be yes.

And the same would apply to someone who has the unfortunate experience of being sexually assaulted at some point in the past and then again now. They would need it again. And what about if you're in a remote location? So I've already mentioned that before you go there, to make sure that you communicate with any medical POC, communicate with the person you're relieving, or at least as soon as you get there explore what you have on hand so that if you need post exposure prophylaxis it can be ordered as soon as possible.

So the CDC makes it fairly easy for us to get these resources. So you can see on the screen, again it references the 2015 guidelines, please download the 2021 guidelines. They generally have apps, they have wall charts, they have pocket guides. So whatever your favorite form of having these at your fingertips and at the ready to prescribe the correct treatment, please download that and have it ready. You need to consider who's going to do the prescribing. Hopefully you know if you're a registered nurse that, that falls outside of your scope of practice.

But if you are a privileged provider and also happen to be a CNC, considering whether that's going to be a role that the ED doc who's clearing, the patient provides, or if that's going to fall under your responsibility as well. I've already encouraged you to create an order set for both labs and medications for collaborating with your IT department and whoever is your electronic health record liaison could be essential and helpful in ensuring that we don't miss needed aspects of a patient's care.

And then once it's ordered, who's going to actually give it? Again, determined by your local practice. It needs to be some sort of trained clinical staff, right? So this could be the [inaudible 00:14:40] staff, it could be the ED staff, it could be the clinic staff. It really just depends on what your local policy is.

And then consider things that would dictate the timing of administration. We've already talked about ensuring, trying to get that nPEP on board as soon as possible, but do you need to make sure that you've got your oral swabs first and your hand swabs prior to them touching their mouth and putting

things in their mouth and swallowing, and then are there other medications that may need to be given as well that could potentially impact the side effects? Like are you giving pain medications? Are there other medications that are time sensitive, which would include emergency contraception?

So discharge handouts are important so that your patient leaves your facility with some idea of what you talked about, some idea of the treatments that were done and when they should follow up or why they should follow up if they have certain signs or symptoms. So you do not have to recreate the wheel on this. So you can see a screenshot there from clinical key, and then the bottom one is actually from Genesis. They have some patient education handouts that you can print out, so you don't necessarily have to create one on your own. But it should have certain elements and you can see those listed there on the left side.

So all patients who are given HIV nPEP should be educated about the potential for an acute HIV infection, and this is a recommendation by the CDC. So acute HIV infection, if it fails, you know you can experience those symptoms while on nPEP. So they should be educated about the potential for fever, rash, and asked to return through evaluation if these occur during the 28 days of prophylaxis or any time within a month after nPEP concludes. And they should see their PCMs who can assess and determine if the symptoms are related to acute HIV or something else that would be on the differential like Epstein bar, syphilis, a [inaudible 00:17:03] infection, hepatitis and other autoimmune conditions.

Just a note that Steven's Johnson syndrome, while it is a rare side effect that can occur on antiretroviral medications, it does require immediate medical attention, and those signs and symptoms can be similar to an acute HIV infection including the fever, the sore mouth and rash.

So again, some patient education materials. You can see these come from Lexicomp, and then also the Avert HIV handouts there. So again, not something that you'd have to create on your own, but allows you to give written information to your patients on postexposure prophylaxis.

So where do we document? We've already talked about the importance of documenting in the electronic health records. Your privileged provider is obviously going to [inaudible 00:18:01] order their medication, and then whoever is giving the medication should document it in the electronic health records. And then also on page 10, section O of the [inaudible 00:18:12], great place to document that occurrence.

So Ms. May showed a patient protocol at the end of her lecture earlier on steps. One of those steps should be discharge planning and follow up so that the patient can know, and that a provider can provide appropriate education on when the patient should follow up. So they also may need consults as well. We've been talking about infectious disease but they could also need consults to behavioral health, and/or [inaudible 00:18:54].

And then this is a recommended schedule of laboratory evaluation by the CDC. I do believe that they stated in the 2021 guidance that they [inaudible 00:19:07] HIV at six weeks and three months, but again please check the references and to ensure that the patients not only get their baseline testing but they get that repeat testing to ensure that there has not been any [inaudible 00:19:23] conversion in the meantime.

Lieutenant Commander King:

Greetings everyone. Lieutenant Commander King back again. Thank you, Commander Hernandez for bringing us to this point. Now we're going to be talking about nonfatal strangulation and asphyxia.

Be sure to access the handouts that are available to include the national or the Strangulation Institute's handouts on the recommendation for medical radiological evaluation for nonfatal strangulation of adults, both for just adults and then for a pregnant victim, their strangulation infographic, signs and symptoms discharge information sheet. They also have a finalized medical frequently asked questions for imaging webinar that's available to you and a Dear Doctoral letter.

Additionally, there is a strangulation photo series courtesy of Naval Medical Center, San Diego and a strangulation pictorial diagrams, courtesy of Naval Hospital, Jacksonville.

So according to the National Coalition Against Domestic Violence, every minute, about 20 people are physically abused by an intimate partner in the United States. During one year, this equates to more than 10 million women and men with one and four and one in nine men experiencing severe intimate partner violence, physical violence, intimate partner contact, sexual violence and/or intimate partner stalking.

Furthermore, 72% of all murder suicides involve an intimate partner and 94% of the victims are female. A study by [McGowan 00:01:24] et al in 2016 founds survivors of domestic violence were more likely than sexual assault patients to sustain strangulation.

It's kind of creating the context of why we're talking about it today. Given the high rates of intimate partner violence, it's not surprising that women are often the victims of nonfatal strangulation. According to multiple studies, strangulation is often a gendered crime. Virtually all perpetrators are men and victims are female about 97 to 99% of the time. Research by Wilber et al in 2001 and [Wilkins 00:01:54] et al in 2016 revealed that those who reported being strangled also reported concurrent physical, verbal and physical and/or sexual abuse.

Meaning the strangulation event is often not an isolated incident. A woman assaulted by an intimate partner about 22 to 68% reported being strangled with the majority of them being threatened with death by their abusers. Interestingly, the Wilber et al study in 2001 reported that strangulation often did not start until about five years into a relationship and on average, three years after other methods of physical abuse began.

Wilkins et al in 2016, reported that women in their thirties reported nonfatal strangulation, about 15% compared to less than 8% in all other age groups. This may mean certain age groups are at a higher risk for experiencing nonfatal strangulation than others. When trying to determine the actual prevalence of strangulation, there are reports stating it's as high as 10%, female homicides.

However, it was unclear where they got the data from. On the next slide, we'll go ahead and look at that a little differently. This table was generated June of 2021 from the CDC, as you see the link down there. So when trying to determine the actual prevalence of strangulation, there are reports, like I said, stating it as high as 10%. But here, according to the CDC's National Violent Death Reporting System that can be queried, I looked at the total number of homicides attributed to hanging/strangulation and suffocation, which those are all grouped together.

When you look at this chart they have, they don't tease out hanging strangulation suffocation. When I looked at the total number of homicides attributed to that method of death, that was considered or that was the method of death about 2.3% of the time.

However, when you look at the rates by sex, we find that about 1.1 of male deaths were attributed to hanging, strangulation/suffocation compared to 6.6% of female deaths. Contrast that with

last year when I did this query in 2020, the rates were 1.2% for males, which is about same and about 7.5% for females respectively.

I never could find this 10% prevalence rate but I can see when you break it down by sex, females still have a higher proportion attributing to this method of death compared to males.

The Strangulation Institute creates training educational resources for anyone who may come in contact with victims experiencing nonfatal strangulation, including first responders, medical personnel and lawyers. Part of their mission is to enhance the knowledge and understanding of professionals working with victims of domestic violence and sexual assault who are strangled.

But much of today's content is obtained from their research and publications. The strangulation and intimate partner violence fact sheet on this slide is from the Strangulation Institute. The handout is current as of 2019 and highlights [inaudible 00:04:41] facts that we've already mentioned. Like one in four women will experience intimate partner violence within their lifetime. And unfortunately, nonfatal strangulation is common among women who experience intimate partner violence.

Often, the method of strangulation that's chosen by the abuser is manual. Meaning they choose to use their hands or arm or feet, a manual method to strangle them. And those who are strangled reported loss of consciousness and sexual assault, about a third of the time with 9% of them also reporting being pregnant.

Most of the women reported they believed they were going to die, which is consistent with the other reports that I had seen earlier. Maybe most importantly, we also see that compared to others who experienced intimate partner violence without a history of strangulation, their odds of being killed by their partner increased 750%.

It's a huge safety issue that needs to be addressed. We also have there on the left hand side, you see that of those who reported being nonfatally strangled, they did not have signs and symptoms. Even smaller percent had visible injuries that could be photographed for forensic photography. Due to the prevalence of intimate partner violence, sexual assault and nonfatal strangulation within intimate partner relationships, we will spend some time focusing on the medical considerations regarding this.

The strangulation falls into a category of neck trauma, serious injury or complications can result from neck trauma and require prompt evaluation. As you'll recall, the neck contains main vital structures. Within the neck are two fascial layers. The superficial fascial layer has the platysma muscle that protects the underlying structures. If it's damaged, underlying structures are likely damaged as well.

The deep cervical fascia supports the muscles, vessels and organs of the neck. The compartment formed by fascia could limit into external bleeding that can also allow a hematoma to form which could compromise the airway.

Vascular supply for the brain that's housed in the neck and the nerve root T5 through T1, they merge together to form the brachial plexus which then branches out into multiple nerves that are responsible for arm and hand functions such as [inaudible 00:06:47], muscular cutaneous, median, radial and [inaudible 00:06:51].

The trachea and esophagus run through the neck. So esophagal injuries are a leading cause of mortality, but they may not be apparent on initial presentation. That's just from neck trauma in general, not necessarily nonfatal strangulation. So the thyroid and the parathyroid gland are also located in the neck.

Trauma to these glands can cause bleeding, hematoma formation, transient hyperthyroidism or thyroid storm. So in general, physical examinations may not be reliable in ruling out injuries in patients

with neck trauma. With even minimal wound, having the potential to cause immediate or delayed life threatening complications.

As such, it's recommended that providers consider a low threshold to obtaining additional imaging studies and/or surgical consultation. That is when I was looking at neck trauma, not related to non-fetal strangulation, just neck trauma in general. Those are the recommendations. When trauma to the neck occurs, the location of the trauma is usually described by either the zone or triangular area of the neck [inaudible 00:07:53] on bone and superficial landmarks.

Zone one you see here is from the external notch to the cricoid cartilage, and then zone two... Actually, I think I have those backwards where that should be zone three is from the external notch to the cricoid cartilage.

Zone two extends from the cricoid cartilage to the angle of the mandible. While the picture here doesn't do it justice, this zone here, zone two has the largest area of all three and as a result is the most commonly injured area. And then zone one there at the top is from the angle of the mandible to the base of the skull. The neck can also be described in triangles. Like I said, it can either be zones or triangles.

By triangles, it's the sternocleidomastoid muscle separates the neck into two triangles. The anterior triangle consists most of the major anatomic structures of the neck including the larynx, trachea, pharynx, esophagus and major vascular structures.

Posterior triangles contains muscles, the spinal accessory nerve and the spinal column.

In emergency trauma situations, it is helpful to describe traumatic neck injuries by their zone. Each zone has anatomic diagnostic and management implications. Mortality is highest with injuries to zone one while zone two is the most commonly injured, it can be more easily accessed surgically.

As mentioned on the last slide, strangulation is one of the major mechanisms of neck trauma. The two categories are blunt force trauma, such as with a motor vehicle collision or closed lining type injuries. Strangulation is considered a form of blunt force trauma as it results from external compression of the neck and can result in the injuries to the soft tissue of the neck, the esophagus, larynx, trachea, cervical spine and laryngeal fascial nerve.

And a penetrating injuries would be the other type, such as those from the result of a stab wound or gunshot wound. For purposes of this lecture, we'll focus in strangulation and discuss its mechanism of action in a little bit more detail.

It's important to use the correct terminology when discussing strangulation. Patients and others who aren't medical may use these terms interchangeably. The current DD 2911 even makes this unclear by grouping choking and strangulation together in the other non-genital act section, without any clarification.

While strangulation, suffocation and choking will result in asphyxia, which is a lack of oxygen to the brain, if not resolved, while they'll all result in a lack of oxygen to the brain, their mechanism of action is different. The strangulation occurs when constant external pressure is applied to the neck and it occludes the blood vessels and it could also include compression of the trachea. It doesn't have to, but it may include the compression of the trachea.

As you see on the slide, it does not take a great amount of pressure to occlude the blood vessels. Only about four and a half pounds of pressure to occlude the jugular veins and about 11 pounds to occlude the carotid artery.

With complete bilateral carotid arterial occlusion, unconsciousness will result in about 10 to 15 seconds if not sooner. Just as unconsciousness occurs rapidly, consciousness is regained quickly once the

pressure is released. That can happen in about 10 to 12 seconds. They can regain consciousness once the pressure's released.

The brain we know consumes a significant amount of energy and is highly metabolically active and very sensitive to hypoxia and hyperperfusion. Therefore, if hyperperfusion or perfusion doesn't resume within four minutes, brain injury or death can occur. Strangulation can occur by four methods or a combination of them and those methods include hanging, where a person is suspended from a ligature around the neck, which results in construction and compression of the neck due to gravity.

Where we could have a ligature also then is garroting in literature. This occurs when the pressure's applied to the neck with a ligature only. So you have the construction and the compression due to a device but there's no component of gravity.

Then you have manual, like I mentioned before and that's also known as throttling. That occurs when the pressure's applied using one's hands, arms or leg. We have Mr. Floyd's unfortunate death from last year as an example of this, where the officer used his knee on his neck. Postural strangulation occurs when in the prone position. In a prone position, weight is applied to a person's chest. That causes the person's body weight to apply pressure to their own neck resulting in compression. This can occur in instances where someone is sitting, kneeling on a person's chest.

One examiner reported an instance in which an infant's father was abusing her by folding her legs above her head. He reported she cried until he placed her legs above her head, not realizing it was causing postural strangulation of the infant.

Next there, the difference in terms with suffocation which involves obstruction of the airway at either mouth or the nose and/or the nose. It can be accidental such as when an infant is placed on a soft surface or surrounded by pillows or blankets that end up covering their mouth. Since they do not have the neck muscles to lift and move their head, they may suffocate.

Suffocation can also be intentional as when one intentionally places their hand or a pillow over another's mouth and nose. Then, we have choking. Choking occurs when there is an internal obstruction of the airway. To resolve this, many of us have learned how to do the Heimlich maneuver to propel the object from the individual's upper airway.

Again, they all may lead to asphyxia, but they have different mechanisms of action. So if somebody reports being choked, we need to tease that out with something actually placed into their mouth plus internal obstruction of their airway or do they actually mean strangulation where there's that external compression of the neck vessel.

For some perspective on how easy it is to apply that four and a half to 11 pounds of pressure to occlude the neck vessels, we need to consider how much pressure maybe it takes to open a soda can or shake hands or even pull the trigger on a gun.

Statistically at this point during the live event, I usually ask participants to put in the chat box what they think how many pounds of pressure it takes to do a handshake or open the soda can, things like that.

Usually, numbers come in between three to five, sometimes 10 or 15 in particular for the handshake. Well, in reality, the average adult male handshake is about 80 to a 100 PSI with a maximum being between 160 and 180 PSI. PSI, remember, is pounds per square inch. So that's the pressing results from the force of one pound of force applied in an area of one square inch.

Their handshakes can be on average, 80 to a 100, up to 160 to 180. The soda can that you see down there, it takes about 20 PSI to open that. If an individual were holding a weapon, the trigger finger that only takes about six pounds of pressure. You see, it doesn't take...

Almost everybody can shake a hand, can pull the trigger of a gun, can open a soda can. It really doesn't take that much for pretty much any individual to occlude the neck vessels. It doesn't really matter the individual's size and stature. Those are some of the things we consider later with legality and risk factors, but as far as being able to occlude, because the neck vessels are relatively unprotected.

I don't have the ability to share it with you here, but you do see that YouTube link down there. If you were to check it out, copy and paste it, you would see it's of a female MMA fighter, Cris Cyborg being interviewed by Aaron Tru in June of 2009. They prearranged this interview that during the interview, he would say something to female wrestler that she isn't as compatible as her male wrestler counterparts.

And then he asks her if she gets into the ring with her opponent and she does a chokehold, how long will it take to put her to sleep? At that point, she confidently says, "Three seconds." And then she proceeds to grab him from behind and she places her arm around his neck. And so it's interesting if you this, as we see an instance of nonfatal strangulation. Again, 2009, it's titled as a chokehold and some individuals will still call it a chokehold even though that is a manual method of strangulation.

And so we see that that individual, he loses consciousness in about eight seconds. He goes to the ground and as he's losing consciousness, it's interesting because his eyes kind of [inaudible 00:15:53] in the back of his head and they got him to the ground, she releases and they kind of tap tap to help him wake up. He regains consciousness, he's disoriented. He doesn't know where he is at. He doesn't know what just happened. He's like, "Wait, what?"

He looks fine otherwise. So this kind of goes to that idea that it doesn't take a lot of pressure. You can lose consciousness quickly and it can be difficult to appreciate the seriousness of what's occurred, especially when we have situations like that. (silence)

I had some interruptions there. Moving on then to the next slide, that was just for some perspective, strangulation can occur across the zones and cause compression of various structures based on both the amount of pressure applied and anatomical location. Depending on how and where the pressure's applied will also determine which mechanisms are in play.

The first mechanism as already mentioned is venous obstruction that occludes the thin wall jugular veins resulting in congestion of the blood vessels and increased venous and intracranial pressure. The next mechanism I have listed here is carotid artery obstruction, which stops blood flow and impedes oxygen delivery to the brain.

The third mechanism is stimulation of the carotid sinus, which is a dilation of the bifurcation of the common carotid artery. It's at the beginning of the internal carotid artery. So it's located in zone one near the atrial pulse, just inferior to the angle of the mandible at the level of the thyroid cartilage.

The carotid sinus has dual receptors that plays a crucial role in the control of blood pressure and heart rate. The carotid sinus is very sensitive to touch and pressure and when stimulated, it can cause bradycardia or cardiac arrest even.

The third mechanism is airway obstruction, which is caused by closure of the trachea. It requires about 33 pounds of pressure to close the trachea and about 66 pounds of pressure to occlude the [inaudible 00:17:56] arteries.

So due to the higher pressure needed, these mechanisms aren't as commonly employed as far as a sports mechanism. But what we see here is that all of them can result in asphyxia. And if not, resolve can lead to injury on and/or delayed death.

The degree of bodily injury or harm is related to many factors and these factors have a cumulative effect that increase the likelihood that a hypoxic brain injury will resolve leading to loss of consciousness or ultimately death.

Lethality risk factors include and I don't have them in any particular order here, but the victim's age really young or old may have underdeveloped or impaired stress responses. The surface area of the neck covered. So for example, with the neck occluded by one or two hands or a small ligature, more likely to occlude both jugular veins and carotid arteries or both the left and right vessels [inaudible 00:18:55] one side, depending on how many hands are used, the whole circumference of the neck or what not.

Victim resistance. Victims who struggle increase their oxygen demand and may become unconscious faster. The quality, so that has to do with the pressure. Is it being constantly or intermittently applied? So do the hands relax and tighten, relax and tighten again? The duration, how long was the pressure applied? 30 seconds compared to five minutes and medications.

For example, some medications that affect the patient's respiratory or heart rate or bleeding or clotting will affect their ability to compensate.

During strangulation, the blood flow to and from the brain is impaired, which affects its oxygenation and could result hypoxic brain injury as I've mentioned depending on how long the interruption of blood flow persists. When considering the severity of hypoxic brain injuries, we must recognize that not all brain cells are equally susceptible to hypoxia. Neuro cell death in the brain can be patchy, therefore it's common for signs and symptoms to be delayed by hours to weeks.

Think back to the MMA interview that I had mentioned earlier. There were no visible injuries immediately afterwards. That's not some surprising for patients to often delay seeking treatment or not seek it at all. The Strangulation Institute's signs and symptom handout here highlights what to look for and ask about in areas regarding neurological symptoms, [inaudible 00:20:17] eyes and eyelids, ears, face mouth, neck, chest, voice and throat changes as well as breathing changes along with some things in particular that you might be assessing for.

The handout also highlights that there may be delayed consequences, such as PTSD. It says PTSD, depression, suicidal ideation, memory problems, nightmares, anxiety, severe stress reaction, amnesia and psychosis. Additionally, it highlights that death can occur days or weeks after the attack due to a carotid artery dissection and respiratory complications such as pneumonia, acute respiratory distress syndrome and the risk of blood clots traveling to the brain.

The main takeaway of this slide is that many patients will not have signs of symptoms. Unfortunately, autopsy is the best way to determine a strangulation case. We don't want our patients to have to die in order to determine that there is injury from the strangulation events.

I do have a 911 call to play for you. Just give me a second to bring it up. I'll see if I'll be able to do that.

Speaker 2:

Hello?

Speaker 3:

Hey Michelle, this is Lynn San Diego Police Department. Is this your husband or boyfriend?

Speaker 2:

My husband.

Speaker 3:
It's your husband?

Speaker 2:
Yes.

Speaker 3:
Okay. Does he have any weapons at all?

Speaker 2:
No.

Speaker 3:
What did he do to you? Okay. I want you to try to take a deep breath and calm down.

Speaker 2:
He tried to break my neck.

Speaker 3:
He did what?

Speaker 2:
Tried to break my neck and he suffocated me. [inaudible 00:21:39].

Speaker 3:
Okay. Do you need a paramedic? Okay. Michelle, do you need a paramedic?

Speaker 2:
No.

Speaker 3:
Are you sure?

Speaker 2:
I'm sure.

Speaker 3:
Okay. He's inside your house though, right? He is not there with you?

Speaker 2:
He's probably be taking off in the car right now.

Speaker 3:

Okay. What kind of car would it be? Hey, Michelle. I want you to take a deep breath and try to calm down. Okay. He's not right there. So he's not going to hurt you. Okay, Michelle?

Speaker 2:

Yeah. I'm not crying. I can't breathe.

Speaker 3:

Okay. All right. Do you want a paramedic?

Speaker 2:

No. I'm okay.

Speaker 3:

Are you sure? If you can't breathe?

Speaker 2:

How come I can't breathe? How come I can't...

Speaker 3:

All right. Let me talk to the lady that was there again. Okay?

Speaker 2:

Yes.

Lieutenant Commander King:

While most patients may not have any or minimal external signs and symptoms related to the strangulation, it is the hidden injuries lying just beneath the surface that can really be life threatening.

Delayed, so [inaudible 00:22:43] can include, like I mentioned, carotid dissection or cerebral infarct. A seven year retrospective study by [Zarubi 00:22:49] et al looked at all the CTA and neck injuries or studies due to strangulation at their Institute. Among the findings was a 2.1% prevalence rate of vascular injury diagnosed by CTA of the neck and strangulation victims.

Additionally, a vascular injury could not be clinically predicted by history in physical examination alone. While the authors concluded that the clinical threshold for obtaining a CTA may need to be increased, the Strangulation Institute had a thorough review and discussion to which they disagreed.

The takeaway from this is that patients with a carotid dissection will have a normal neuro exam up until the minute they stroke. We need to be aware that a carotid dissection can heal within 12 months, but up until that point, the patient is at an increased risk for stroke.

Another delayed consequence could be pneumonia that can result from gasping of air during the attack and subsequent vomiting. Neurological infarct from the hypoxic brain injury or secondary to a cerebral artery infarct.

Strangulation is considered, like I said, a traumatic brain injury. We recall that TBIs can cause individuals to have headaches, dizziness, cognitive swelling. It is not uncommon for those experiencing

nonfatal strangulation in an intimate partner relationship to report more than one episode of strangulation and each strangulation event carries risk.

The cumulative effect of multiple mild PBIs is deemed, "chronic, traumatic encephalopathy", which has been associated with depression, suicidality and Alzheimers-like syndromes. Again, since these signs and symptoms are delayed, these aren't in onset, the individual likely will not realize that they may be related to the strangulation event or the strangulation event.

It's recommended that each facility has a protocol in place for evaluation of victims of strangulation. This will help ensure all victims receive appropriate care and minimize variance in practice. Standardization really is key.

IAFN or the International Association of Forensic Nurses has a strangulation toolkit that can be adapted for use and you don't need to be a member to download it. That's under the community resources and you could either ask customer information or obviously you can go ahead and Google that as well.

The protocol on the Strangulation Institute is an excellent resource that we'll go ahead and review now. That's also one of those resources that you can have for download. So if you haven't printed it out, now would probably be a good time to do that so you can get a better picture of what we're looking at.

We see here, number one, it has evaluate and I'm on the left hand side where it has the adult. So the goal is to evaluate for carotid and vertebral artery for injury, evaluate bone and cartilaginous and soft tissue neck structures and evaluate the brain for anoxic injury.

One, step one, we have the patient presents to the ED. Then we go down. Do they have any signs and symptoms or a history of? If all the answers are no, we follow the right side of the pathway and we [inaudible 00:25:46] that, we could discharge them home with detailed instructions including a lethality assessment, a danger assessment that'll talk about a little bit later along with signs and symptoms of things to return to the ED for which I have that handout as an example later as well.

If they do have yes to any of the following like loss of consciousness, which could be an indication of anoxic brain injury or visual changes, facial or intra-oral or conjunctival, particular hemorrhaging, ligature marks of around the neck, soft tissue neck injury or swelling of the neck or carotid tenderness, incontinence, bowel or bladder, which again could be an instance of anoxic injury, neurological symptoms or dysphonia or aphonia or [inaudible 00:26:28] or even subcutaneous emphysema, that could be an indication of tracheal or laryngeal fracture or rupture rather.

So then we see it goes down to the box below, which if there's going to any type of delay, the clinician could consider administering 325 milligrams of aspirin if there's any type of delay in obtaining radiographic studies. You'll notice there that it has the recommendation it says, "Recommended radiographic studies to rule out life-threatening injuries." The parenthesis underneath it is including delayed presentations up to a year out.

If this individual wasn't evaluated in the acute period immediately following the strangulation event, that doesn't mean they still shouldn't be evaluated because remember, they're at that risk for carotid dissection up to 12 months after until that has healed fully, if that has happened to them.

Underneath it, we see that a CT angio is the gold standard as it's the best for evaluating the blood vessels and bone and cartilaginous structures.

It is less sensitive for soft tissue trauma. So if we're concerned about that as well, there are other studies that can be done. Next on the line they have here is the CT of the neck with contrast. Well, less sensitive than the CT angio for vessels, it's good for the bone and cartilaginous structures.

And then you have the MRA of the neck. Again, less sensitive than the CT angio for vessels, but it's good for the soft tissue trauma. You have an MRI of the neck. Again, less sensitive than the CT angio for the vessels and the bone and cartilaginous structures, but it's the best study for soft tissue trauma.

You've got that MRI/MRA of the brain, most sensitive for anoxic brain injury or stroke symptoms and intercerebral [inaudible 00:27:59] hemorrhaging. You'll note on the bottom there, the carotid Doppler ultra sound is not recommended as it's the least sensitive study and is unable to adequately evaluate vertebral arteries or proximal internal carotid.

That's the standard for the adults who comes in reporting non-fetal strangulation. They do have an algorithm out for pediatrics, so that's not a population I have in this presentation. Again, you are welcomed to go ahead to the Strangulation Institute and see what additional resources they have for the pediatric population.

Then on the right hand side, we have the recommendations for the medical/radiographic evaluation of the pregnant adult patient with nonfatal strangulation. So the goals are the same, except we now add number four, evaluate and monitor the fetus.

If the patients don't present, now maybe we should have OB protocol where OB is consulted as well. We still ask did they have any of the same sign and symptoms? That is all the same. The recommended testing is the same. They do make a point of, this is interesting as one of the differences here, that it includes rare delayed presentations up to two years.

Whereas on the other side here for the adult, who's not pregnant, that's just up to one year and for the adult who is pregnant, then it would be up to two years. And they do have them in little pink bullet behind each of these recommendations like for the CT angio, it says, "Safe for all stages of pregnancy and/or lactating patients."

So they do have that comment there for individuals who are concerned. This is only the first page of this algorithm. If you were to go to their site or you download that handout, you'll see on the second page, it has all of the supporting research and all of their references as to why the Strangulation Institute came to this conclusion with their recommendations.

It just takes me a second to reorganize my slides after that as I have to maximize them to see them, so bear with me for a second. This a quote from one of the leaders in the field, Dr. Bill Smock. He's also one of the leaders with Strangulation Institute pretty much saying... Because there is that question of the debate out there, the cost benefit or risk benefit associated with doing a CTA and exposing the individual to radiation. Is it really more beneficial than it could cause harm for?

In their estimation, yes. All that references and documentations and other things to check out, keep yourself educated as to why they believe it. On the next slide here, depending on your facility's capabilities, you may have a number screen tools and diagnostic tools that you can utilize. I thought of these tools as being a part of a continuum or spectrum where you have readily accessible bedside tools like a Pulse Ox out to more comprehensive and expensive tools like an MRI.

With the Pulse Ox, we can use that obviously to assess oxygenation status, which is especially helpful for anyone presenting with mental status changes, to assess for maybe hypoxia. And then the next bedside tool we have is an otoscope which can be used to evaluate for ruptured ear drum, bleeding, [inaudible 00:30:57] or bleeding behind the ear drum as well.

The next, I think, well widely used like the X-rays which almost all ERs are equipped to perform. The X-ray will not be provide good information regarding vascular injury, but it can show especially with the chest X-ray, it could show pulmonary edema, pneumonia with the chest X-ray. It can confirm if there is nasal fracture for those presenting with hemoptysis.

It can assess for soft tissue or subcutaneous emphysema related to a fracture, a laryngeal fracture. It can assess for a tracheal deviation due to edema or a hematoma. It can be used to rule out a highlight bone fracture with the C spine series.

So then as mentioned on the previous slide, a computed tomography angiography, so the CTA with contrast is the gold standard throughout vascular injury. It provides a detailed cross-sectional view of the neck structures used to diagnose life threatening vascular injury and provide information regarding the soft tissue, laryngeal and tracheal structures and bones, like I previously said.

Last on here is MRI that I mentioned is the best for the evaluation of soft tissue trauma, but less sensitive for the vascular and bone and cartilaginous structures.

I do have on there... I don't know if the link is on there. The link's not on there, but again, if you went to the Strangulation Institute, you could find out additional resources such as what I have listed at the top, which is the 2020 webinar from the Strangulation Institute that discusses imaging recommendations on patients who have been strangled. If you're interested in more information about the studies or the research behind it, I recommend you go there.

Additionally, one of the other handouts that we have made available is a dear doctoral letter that the Strangulation Institute went ahead and wrote as well with much of the same information [inaudible 00:32:39] citation.

Like we do for all our patients when it comes to the clinical evaluation, we're going to do a head to toe examination to include obtaining a complete history and physical exam. We need to remember that nonfatal strangulation often occurs in the presence of other abuse.

In the past, it had been recommended that consider observation for 12-24 hours for internal edema. However, that is not an effective method to evaluate for vascular injury. The CTA is the gold standard. The CTA angio is the gold standard and that is what should be utilized.

But if it is determined that... Or determined that the patient should be observed and maintained in-house, then it's recommended neck measurements can be taken at the same anatomical location and recorded every 12 hours during hospital stay.

Obviously, consults need to be in place regardless if the patient is pregnant or not or if they have suicidal thoughts. We need to have those consults in place. So appropriate consults should be in place. In a few slides, we'll discuss the IFAN strangulation toolkits recommendations regarding assessment. Keep in mind that the OPST process, to observe, photo, swab, touch, this applies to an entire examination to include the strangulation assessment as well.

The IFAN, International Association of Forensic Nurses recommends examiners complete the danger assessment as part of the strangulation toolkit. The danger assessment was originally developed by co-investigator Campbell in 1986. The consultation and content validity support from battered women, sheltered workers, shelter workers, law enforcement officials and other clinical experts on battering.

The danger assessment helps to determine the level of danger and abused women have of being killed by a intimate partner. It is free and available to the public. You can also use the danger... Using the danger assessment requires the weighted scoring and interpretation that it's provided after completed training.

The assessment is available in a variety of languages. We want to make sure that somebody's been trained to help interpret or to go over the information with the individual. When I was looking it up online, it seemed like individuals could download or print out the danger assessment themselves and go ahead and take it and they had a little blurb there that said, "You should know that 10 or more yes

answers is concerning. Please get in touch with your local domestic violence shelter or call the National Domestic Violence hotline for more help in staying safe."

That was a condensed version they had, but the full version had 20 questions and it's really helpful in assessing that individual's... The likelihood of being harmed by an intimate partner or their safety assessment. If you don't already have training with it, if you're not familiar with it, I encourage you to go to the dangerassessment.org to check it out and see what type of training is available for you.

This is part of the IAFN toolkit. It has 30 specific questions it recommends examiners to ask of patients reporting a history of strangulation. Questions include what was placed around the neck like a hand, a ligature, what weapon? How long did it last? What made it stop?

Questions about symptoms they experienced during or afterwards, as well as questions about anything else that may have occurred at the time of being suffocated. At the time, like being suffocated. So other questions are, "Can you describe or demonstrated on the head model how you were strangled? One hand, two hands? How times were you strangled? Were you shaken while you were being strangled? Was your head pounded on the ground or wall while you were being strangled?"

So it's really invasive and that's going to add some time to your examination. Make sure that you're familiar with, if your hospital facility already has a strangulation protocol, make sure you're familiar with that protocol. If it doesn't, well, in the interim until DHA releases or publishes the procedural instructions and the procedural manuals, it'll be important for you to be familiar with this because all lot of that information is drawn from strangulations, it is drawn from IFAN strangulation toolkit. It'll be really helpful.

We need to conduct a thorough head and neck assessment, obviously as part of our evaluation. The current 2911 has all the body diagrams that you see here except for the under the chin one shown. As mentioned earlier, we'll assess those areas for scalp head, for injuries from hitting an object or from Petechiae eye, we've got eyes. We're going to look for Petechiae eye among other things.

The [inaudible 00:36:56] for bleeding, the mouth for Petechiae around the roof of the mouth, bruising to the upper lips and be sure to have the patient's lip, their upper and lower lips. So we do have a photo series where you see that as an example in a little bit. The ears for external bruising or internal bleeding behind the eardrum. The neck, CT, the abrasions, patterned injuries to kind of give an indication of what was used around the neck.

We're going to set all the areas for [inaudible 00:37:21]. So lacerations, abrasions, contusions, [inaudible 00:37:23], redness, tenderness, pain, things like that. Again, this is another excellent handout to have on hand middle of the night. I haven't had to do nonfatal strangulation either ever or maybe I haven't done an assessment in a while. What am I looking for? And this will help cue me back in again.

This is that photo series I was talking about. So over at Naval Medical Center, San Diego, they have one of their examiners sent to go ahead and do an example of the recommended photos from the ISM toolkit.

So you see, we have entire circumference of the neck, we have... What's helpful there with the neck measurement, if you are going to do repeat neck measurements, you want to make sure that you are capturing that measurement at that same spot each time you repeat it, because if you bury and you're up a little bit like anterior or like superior or inferior to where you have that original, you might have inconsistent measurements or it might seem like you have inconsistent measurements or it might seem like that there is increased swelling or not.

It's really important that we have that accurate, that around the ears and the mouth, obviously if I'm going to have the patient manipulating your ears or their lips, we want to go ahead and swab those areas first if indicated before we allow them to manipulate that for the images, for the photos.

These are the additional photos that are recommended as well for page two. This is another one of those that's available as a handout if you need an example, this is a great example to have for your practice.

If you have somebody reporting nonfatal strangulation, this is what's recommended in the IAFN strangulation toolkit. This also is one where I usually pause and ask participants about the image there at the bottom right where you have a picture of somebody holding the head model to demonstrate the method of strangulation.

At this point I ask if there are any concerns or questions about this. Just think about it for a minute to think if you have a patient who's reporting nonfatal strangulation, we're asking them to demonstrate the method of strangulation on this head model, are there any concerns that could arise? Some of the things that arise are retraumatization of the victim. Exactly. Some individuals feel like this could be retraumatizing where their patients say it's retraumatizing to have to physically hold and demonstrate this on another model.

Another program went ahead and got together with their NCIS and they went ahead and had a body, just a template that they used over at NTIS and they demonstrated some different manual methods of strangulation. In that program, they would have the individual then circle which method of strangulation was used and initial next to it, the patient wanted an initial next to it stating that that was the method that was used.

Either way, I can see from both sides of the house. It's important to understand how the individual was strangled because again, it speaks to some of those risk factors. Is it one side of the neck? Both sides of the neck? How much is being included and kind of giving some of those other cues as well as for the forensic or the investigative purposes side of the house.

But we always want to be mindful of our patients and let them know, "Hey, we can do this one of two ways." Also depends on what you have available. If you don't have a head model that you can utilize, maybe a picture diagram would be better for your facility.

In line with that, we don't currently have standardized strangulation addendum. With the 2911, DHA is creating a standardized form for that. I know I keep saying or we keep saying, "There will be a policy for that." Which is what we always hear, but what do we do in the meantime?

Well, in the meantime, some facilities have created their own nonfatal strangulation addendum and much of it is based off of ISM toolkit. Let's work smarter, not harder. We don't need to reinvent the wheel. If there's something out there, we can use what's already out there. Likely, if your facility doesn't have one, there's probably a Navy, Army, Air Force facility that already has a strangulation protocol in place that you can adapt until this program smoothly transitions over to DHA and has a strangulation procedural manual as well.

Some things to consider. In addition to that documentation, while they do have visible injuries, we want to go ahead and consent for photography obviously. Depending on when the patient presents, serial photos may be indicated. Even if the patient does not have visible findings. So if they follow up in a few days, injuries may become visible later.

Remember how I mentioned earlier with the forensic photography and ALS use, how in the one study by [inaudible 00:41:40] that at four weeks, they were able to identify injuries with ALS, whereas they weren't able to necessarily appreciate them under a visible line. So sometimes if we have those

comparison images, we can see over time how injuries had progressed. That just depends on the situation for the individual.

In these photos, we see subconjunctival hemorrhages, Petechiae and sclera, which is an indication of venous congestion resulting in jugular occlusion and bursting blood vessels. So it's an indication of the mechanism that was used. As mentioned previously, be sure to capture a minimum of three photos per injury, the rule of three and document them appropriately under the 2911 photo law.

Some programs are investigating the use of ALS, like I mentioned for injury identification, but if you're going to be doing something like that, you need to look into the literature for it and be able to have a strong reason or be able to explain your process because there's still kind of controversial out here. And right now, DHA doesn't have a stance on recommending for or against it. It's really one of those things that we need to be educating ourselves and make sure we are current in our practice.

Once the exam is finished and we're discussing discharge instruction, we need to be or we need to provide specific information for the patient to follow up with. This handout is an example from the IFAN, so the International Association of Forensic Nurses, nonfatal strangulation toolkit. It's just verbatim what the instruction has.

Again, you don't need to recreate the wheel. If you don't have something, go ahead and use what's already out there. It's going to have that information that we give to all patients like, "Hey, this is what you sought care for. This is the treatments that were done. These are recommendations." On the back of this form, because this was adapted by Naval Hospital in Jacksonville, they then included all of the community resources, which obviously you would need to update for your areas because that's going to be specific to your community resources and availability.

And then they also created this other handout on the right hand side, which was like a home monitoring log be because our patients are going home with a follow-up appointment. Depending on the facility, maybe that's two, three days, maybe that's one week, maybe that's two weeks, whatever it might be. And then the individual who reported being nonfatally strangled would take this monitoring log, they'll note down any of the sign and symptoms they may be having that maybe aren't on scale to return to the ED for, as was just mentioned on the other side, but other things that they're noticing.

They could use that as a point of discussion with their follow up visit with their PTM or whichever provider they're following up with. That was an example of IFAN toolkits, discharge instruction. But the Strangulation Institute also has this standard discharge and followup form.

I kind of like their layout of it differently. See what's out there, see what's going work for your practice and for your facility and know that you don't need to recreate the wheel. I also don't want you working so hard when something will be coming down the pipeline that we'll all need to be using, but this is another one to check out and it's available for your use.

That is all I have for this section on nonfatal strangulation asphyxia. If you do have questions, feel free to email any member of this education team and we would be happy to answer them for you. Otherwise, I will turn it back over to Commander Hernandez.

Commander Hernandez:

Hi, everyone. It's Commander Hernandez again. Our next section that we're going to discuss is pregnancy risk and care. We want to ensure that we utilize our patient's history of the assault when we are assessing their risk for pregnancy and also providing counseling. So consider that your discussions will be very different with someone who's capable of achieving pregnancy and they've had penile penetration versus digital penetration. Keep in mind that just one exposure for any female of reproductive capability is enough for conception to occur. Our transgender patients, even when they are on gender-affirming hormone therapy, if they are of childbearing age, if they have not had a hysterectomy, still need to be evaluated for pregnancy and offered emergency contraception as appropriate. We should be offering that emergency contraception without regard to the menstrual cycle due to the uncertainty of ovulation.

So with our patients' consent, we want to ensure that we do administer a screening pregnancy tests for all patients with reproductive capability, and all patients should have the right to access emergency contraception if that's their choice. An only exception would be if the patient is clearly or already pregnant. The pregnancy can affect what other medications may be administered or prescribed, but also keep in line that emergency contraception is not an abortifacient. So if the patient was already pregnant and were inadvertently given emergency contraception, there is currently no research that this would cause any harm to a developing fetus.

This is a chart created by the World Health Organization. So it just gives a basic overview of the effectiveness of emergency contraceptive pills. It states that if 100 women each had unprotected sex once during the second or third week of the menstrual cycle and they took no emergency contraceptive pill, we would expect about eight pregnancies to result. If they take ulipristal, or you may know this as Ella, there would be less than one pregnancy. If they take a progestin-only emergency, excuse me, contraceptive such as Plan B, we can expect about one pregnancy. If they use the combined estrogen-progestin method, we can expect about two.

So the option for single-dose medications is that ulipristal. It is the preferred medication if a patient is presenting outside the 72 hours for which we usually prescribe Plan B, and it can be effective for up to 120 hours after assault. It is also preferred for those patients who are overweight or obese. The levonorgestrel, the same as what we call Plan B, and then there is the combination emergency contraceptive pills. Sometimes, a provider might use the pills that a patient's already been prescribed. There is a little bit lower efficacy, as you saw in the previous slide, and also there is more risk for the patient to experience nausea and vomiting. A copper IUD is also an option for emergency contraceptive. However, that does require to have a credentialed provider available to put the device in.

It is worth noting that abortion and termination services are covered by Tricare if the pregnancy is the result of a sexual assault, and we'll talk more about that in the next slide or two. If you or any of your other SAMFEs on your team do you have any religious or moral qualms about emergency contraceptive, we should be willing and able to find another SAMFE or clinician who can provide the needed education assistance and information about emergency contraception or abortive services. So we've already talked about the available methods of emergency contraceptives, and this is just restating that there are several regimens and formulations and they are affected by their effectiveness as far as the timing after the unprotected sexual contact.

So your patient voices a great concern for potential pregnancy. Her last menstrual period was two weeks ago. She does take oral contraceptives, but she admits that she has missed a couple pills lately, and her BMI is 29. Based on what you already knew or what you now know about oral emergency contraceptive, which one would you recommend? I'll pause here for you to consider your choices of a., levonorgestrel, b., ulipristal, or c., a combined emergency contraceptive method she's already using that

was prescribed to her. The answer would be ulipristal, the Ella. Because of her BMI being 29, she is considered overweight, so that would be the most ideal medication to prescribe the patient.

Let's talk about abortive and termination services. So you can see on the screen here, Title 10 of the US Code, section 1093 does permit the use of DOD facilities and appropriated funds to perform in situations where the life of the mother would be endangered. Then the NDAA in 2013 amended that to include when the pregnancy is the result of an act of rape or incest. So you should also keep in mind that a patient does not have to file an unrestricted report in order to obtain abortive or termination services. If they had previously filed a restricted report, they can do so. It can stay restricted. If they did not seek a medical forensic exam or medical care at the time of the sexual assault, they do not have to have had a medical forensic exam to access abortive or termination services. So just wanted to clarify that and make sure everyone understands.

Again, Tricare policy does align with what the previous slide mentioned. There's various places that a patient could receive this type of care from a Tricare authorized provider, including outpatient departments, freestanding ambulatory surgery centers, and then also individual providers' offices. If the products of conception are going to be collected, need to consider the kind of intricacies of that and restricted versus unrestricted. These products of conception would be sent to AFMES, so communication with them. They're the same ones that do our toxicology, so considering communication with them to make sure that all of our i's are dotted and t's crossed if that's something that you're going to be doing. The Navy and Marine Corps public health website has a lot of information about abortive and termination services for both patients and providers, and I would encourage you to look at this if you have additional questions or need additional information.

If, for some reason, these capabilities are not available at a facility, we need to consider how we can safely transport and coordinate this patient's care to the facility they'll be going to and, if this were to happen in a deployed environment, how we would get them to the needed care and making sure that the encounter is appropriately coded and certainly that these are patients that we're offering behavioral or mental health referrals to and regularly-scheduled follow-up. As I mentioned before, we do need consent to collect products of conception and involving the personnel to make sure that we are communicating with the armed forces medical examiner system to make sure that we are collecting it appropriately, packaging it so that the contents remain safe and that the examiner at AFMES can appropriately provide the examination and testing of these products based on how we have collected and handled the specimen.

It's also important to be able to share further information about decreasing the risk for pregnancy if the patient is not ready to be pregnant following a sexual assault. This is a picture of an app called Decide + Be Ready. It also includes a section specifically for service women, and it can be easily downloaded, provide just some basic general information to the patient and then some things that they can discuss with their provider. It's important to address in their reproductive health they may have questions about different types of contraception, any infertility concerns, risk for abortion, and then also for birth control sabotage or pregnancy coercion, so a resource that you can recommend to your patients or even review with your patients.

The different services also have some information regarding sexual health, including sexual assault, abortion, and pregnancy on their different sites. So the Deployment Readiness Education for Service Women, this is created buy and for the Navy, and it's a pretty thorough resource, so I recommend taking a look at that, downloading it, and having it as a toolbox or having it in your toolbox to recommend to your patients for understanding basic elements of contraception and sexual health. The Army has also created a deployment health guideline for women as well. Then I do not believe the Air Force has something specific, but, certainly, they could use the Navy and Army resources. So all of

our patients, we want to make sure that they are being seen by their provider in one to two weeks, assessing their need for a repeat pregnancy test, especially if they have not had a period in their expected timeframe or if they declined emergency contraception at the time of the medical forensic exam, and then just continuing to help coordinate any follow-up care and referrals they need, and this is specifically about OBGYN care.

Our next series of slides is related to examination of those accused of sexual assault. So, previously, we referred to these as suspects. With the new DHA guidance that will come out, no longer the term suspect is used but accused. So I will be using that term. However, forgive my slip-up if I do say suspect every once in a while. So why should we even do an accused exam? If you recall, going back to your initial SAMFE training, which may have been years ago for some of you, you may recall what's called Locard's Principle, and Locard's Principle says that every contact leaves a trace. So every time I come in contact with something or someone, I leave a little bit of a piece of myself behind, and so the same is true with any other person contact, right? When we do an exam on a patient who presents as a victim, that is just one piece of the full picture. So the accused is another piece of this puzzle, and being able to do an exam on the accused allows us to identify and document any injuries or anomalies that may be present.

The collection and documentation of any potential biological and trace evidence could potentially corroborate a victim's history or an accused's history. It could identify or exonerate a subject, potentially establish sexual contact, and allows us to examine for evidence of force, resistance, and injury on the accused body. So there was one study by Ekroos and Shannon in the Journal of Forensic Nursing that referenced a study that said that in cases where there was an adult victim, as many as 30% of the suspect's evidence kit that were examined by a crime lab were able to identify the victim's DNA in that suspect's kit. So this was DNA analysis of epithelial cells found on penile swabs of the known accused person. You can see a third of those was able to find the victim's biological substances on the accused person's bodies, so it can definitely play a role in the full scope of a sexual assault investigation.

So some considerations to remember for doing an accused exam. Consent is required. We always want to make sure... And I'm not talking about the same consent that is on page two of the 2911. That is actually not completed. But the patient who is accused, they either voluntarily give their consent, they sign a consent with law enforcement, or we have to have a search authorization for search and seizure, or if we're talking about a civilian issuing an order, it'd be a court order search warrant, okay? So when we're conducting the exam, of course, we're going to tell our patient, "Okay, now I'm going to take a swab from your mouth," or wherever you may be going to do that and make sure that you garner that it's okay for you to do that from the patient, but it is not the same legal consent that we get with our patient. So please remember that.

Military criminal investigative office or law enforcement is responsible for obtaining whatever type of search authorization you're using, whether that's the patient signing a legal consent with them or obtaining a search authorization for search and seizure. You want to make sure that when you are reading the search authorization that you stay within the scope of what is prescribed. If they say, "Conduct a complete full medical forensic exam," then that means what it means. If they say, "Collect penile and [inaudible 00:16:18] swabs only," then please stay within the scope of that. You also, of course, want to make sure it's signed by the appropriate authority.

This is an example of a authorization to search and seize. So you can see it's obviously redacted there. I believe this is Army. Here's another example of the search and seizure authorization. So you can see it says the sexual assault nurse examination to include physical evidence, such as [inaudible 00:16:56] fluids, trace, hair, DNA, and the clothes of the person at the time of the examination. So it gives you a pretty broad range, but if there was something in there that didn't make sense to you or you

didn't understand, you would want to stop, ask the appropriate questions, get clarification before proceeding with the exam.

So some considerations is that law enforcement is responsible for the safety and security of all those involved and they should remain nearby in the room. They are responsible for the cooperation of the accused. So if the accused person says, "Uh-uh (negative), I don't want you to touch me, I don't want you to do that," then we stop that and stop, stand back, and let law enforcement discuss with the patient what the ramifications of that are. Then once the patient is now saying okay, then we can proceed. If they don't say okay, then we don't proceed.

Please keep in mind that they are under a search authorization saying that they must allow us to examine their body. It is not saying the nurse must examine the body. So keep in mind who is under that authorization. If you are uncomfortable for some reason or you don't think you have the cooperation of your patient, then you need to stop until you're confident that you do. A toxicology needs to be filled out on the search authorization. If it's not there, then you should not be collecting it. When is it unsafe or the patient refuses to submit to a SAFE, if it's not safe, then you don't conduct one. They have to educate law enforcement on what our responsibilities are and what their responsibilities are.

So it's always important to reduce the risk of cross-contamination. We have chosen to address that here, but keep in mind that making sure that we have SOPs in place to prevent cross-contamination is important whether we're talking about patients who present as victims or accused. If it's at all possible to avoid conducting an exam on an accused patient in the same room as the associated victim exam, then that's what we want to do, but we are aware that our facilities are often small and often busy, and that may not be the case. So make sure that you do a thorough cleaning and disinfecting of the room according to your SOP and that you document this. If at all possible, then we'd also want to use an alternate SAMFE, not the same one, to conduct the victim and the accused exams. Again, often, you may be the only one, or it may be Saturday at zero 2:00 AM and nobody else is around or available. So if you're conducting both a victim and an accused victim, try and make sure that you wear a mask, which hopefully you already are in COVID times, wash your hands thoroughly, consider changing your clothes, and, again, just making sure that the room is cleaned for your SOP.

Since law enforcement is going to be very close by in the room, making sure that you position them away from any evidence so that if they're talking, coughing, whatever that they're not doing so over the samples you've collected. If they did not bring a mask for whatever reason, please provide them with one and ask them to consider wearing it. The position of law enforcement in the room, it's perfectly fine, if it's safe to do so, to have behind the curtain or maybe at the head of the bed. But, again, you have to consider the safety and security of all throughout. We do need medical clearance from whoever the clearing provider is, and they should be afforded appropriate labs, prophylaxis, and referrals if they desire to do so.

Remember that there are a set of instructions that go along with the kit specifically for what they call suspects but what we now call accused. When you're reading those instructions, you'll notice that if the patient has been brought in within 72 hours, the instructions advise us to perform all the steps and, if it's after 72 hours, to do steps A, C, D and then E through H only, which generally eliminates the collection of clothing and that drop sheet for foreign material. Keep in mind there is no step H. I think it's there to make sure you're paying attention. But, of course, you stay within the scope of your search authorization, and regardless of any hygiene activities that may have been reported, we're going to collect samples regardless.

So when we're documenting on the 2911, we have to pay very close attention because many of the areas on the 2911 are going to be not applicable for the accused population because we're not using that same consent, we're not asking any history questions, including their description of what happened

or any acts described by the patient. If they mention something or they offer something, you should document that, but we're not asking the questions specifically. Keep in mind that with our language that we use we are objective and non-biased, non-judgmental, and our focus is clinical.

We'll just walk through the 2911 so you can see what one would look for a patient who is accused. So we're gathering demographic information if that's what law enforcement wants us to do. They may request that it not be used. In the middle section, where we're asking about the SARC, and if it's an advocate, that's obviously going to be not applicable. Then so is reporting information. That's not applicable. The informed consent, page two, not applicable. In this section where you would normally have the patient sign, you're going to place what the search authorization was for you to be able to utilize or to conduct the exam. You can see that here. Page three is going to be not applicable because it's history. Page four and five are not applicable, again, history questions. Then you're going to document your physical exam using the appropriate diagrams and legend, just as you would for a patient who presents as the victim.

Then pages... The genital diagrams, you're going to choose whichever one is appropriate based on which gender you're examining. Here, this is a male who is the accused. Page 10, we're not asking the toxicology questions at the top of page 10. You can utilize section O to document that you reviewed the search authorization, that law enforcement stayed in the room, that the ER doc provided medical clearance. Then you're going to inventory all of your samples that you've collected on page 11, just like you would with another case that might present as a victim. When you're packaging the kit, you'll notice on the envelopes that there's a place to circle either victim or suspect. Please ensure that you select suspect on there. Then, of course, chain of custody, there's no difference. It must be maintained until everything's been turned over to the appropriate law enforcement agency, and it must remain within your site or be behind two locks if you have to lock it up for some reason.

So we want to make sure that those who are presenting to our facility and are accused of sexual assault, that they still receive high quality healthcare, that we protect their privacy and their dignity, that we offer prophylactic medications and it's their choice as to whether they want to listen to that or accept it, and then offer referrals. They may need behavioral health referrals. As you can imagine, being accused of sexual assault is hard for many people, and it's not our job to determine guilt or innocence. We want to make sure that we protect their mental health as much as possible. They do get a sensitized entry into their medical record. Then if they do not speak English, we need to make sure that we provide appropriate translation services just as we would with any patient.

So some things to consider. What if you have multiple accused persons? That's going to take some coordination with your law enforcement partners. Often, we only have room for one or maybe two at a time, so they're going to need to prioritize and maybe make a schedule for how these patients are going to be brought in to your facilities. I think most of the time we hear the word accused or suspect and we think male, which an overwhelming majority are, but we certainly could experience a female or transgendered individual being accused of sexual assault.

Then what happens if the accused state that they are the victim, which could certainly happen? You need to consider that you're going to stop and discuss with law enforcement. We still have to collect the specimens that they have requested, but then, once done, having law enforcement step out of the room, collecting a history and any additional samples that may need to be taken. What if they're combative or uncooperative? We talked a little bit about that, that we wait until law enforcement steps in and they regain the cooperation of the patient. If they're intoxicated or incapacitated, we need to wait until they can be medically cleared. So if you're interested in learning more about suspect or accused exams, we encourage you to take a look at the following resources here, which have a lot of good information.

All right. So, next, we'll talk about sexual assault and contingency operations and deployment. Per instruction, the SARC is responsible for ensuring that we have 24/7 response capabilities for SARC VA services in all locations, and that's going to include your deployed locations as well. They should still be given priority treatment and transported to wherever has the appropriate evaluation tools because not everywhere is going to be able to do a medical forensic exam. Then they're evaluated and treated for any injuries and offered the victim advocate and SAFE as quickly as possible.

So active duty members can still choose to file a restricted report in the deployed setting. They have the choice of restricted or unrestricted. If you've ever been deployed, you know that it's not just active duty who are generally there with you, that we often have civilians and contractors and third country nationals that are providing needed resources, and they are not eligible for restricted reporting, only for unrestricted. There may be instances where local laws may limit reporting options. If you're listening from an overseas location, I would encourage you to investigate this and know if there are any local laws that would prohibit a restricted report.

So, in a deployed setting, there are various levels of care. This particular lecture is not to go completely in depth on that, but I do want to make sure you understand the basics. So you'll see role one through four. For my Navy people, you may be more familiar with the term echelon, which is a maritime term. But role or echelon one, medical support, is what's integral or allocated to a small unit, and it will include the capabilities for providing first aid, immediate life-saving measures, and also triage. Additionally, it will contribute to the health and wellbeing of the unit through the prevention of disease and treatment of non-battle injuries and operational stress, so your routine sick call and the management of minor sick and injured. The goal is to get them back out to the fight.

Role two support is normally provided at a larger unit level, although it can be provided a little bit further forward depending upon the operational requirements. They're prepared to provide evacuation from the role or echelon one facility, and they provide triage, [inaudible 00:31:19], treatment, and holding the patients until they can be returned to duty or evacuated and can provide emergency dental treatment. Normally, they don't include surgical capabilities, but sometimes operations can require them to be augmented to perform emergency surgery and essential postoperative management. If they have these capabilities, they are often referred to as role two plus.

Then role three support includes additional capabilities, including specialty diagnostic resources, specialist surgical and medical capabilities, prev med, food inspection, dentistry, and operational stress management teams. Their holding capacity will be sufficient to allow for diagnosis, treatment, and holding of those patients who can receive total treatment and be returned to duty. So you might know that these are provided by field hospitals of various types. They can also be found on major amphib ships, hospital ships, and free hospitals as well.

Then role four is your definitive care, especially for those patients foe whom treatment is required longer than the theater evacuation policy or if there's just inadequate resources at the role three facilities. So, again, we have specialty surgical and medical providers, ability for reconstruction, rehab, and convalescence. So this is a nice pictogram, if you will, from the Advanced Readiness Officers course just delineating going from combat zone to a US medical center. You can see we have first responder care, forward resuscitative care, theater hospital care, and then on to definitive care.

So, in a deploy setting, role one and role two might have SAFE capability, depends on who's there and the type of structure and the ability to provide some certain elements of care. But role three and role four are required by instruction to have 24/7 medical forensic exam capability. Then the DODI 6310.09 says that it can only be conducted by trained SAMFE, which means that you've gone through appropriate course and clinical preparation. So some considerations if you're going to be doing these at a role one, or role two facility. You're definitely going to be in a more [inaudible 00:34:03] environment

and likely have a lot less capabilities just by definition of these types of facilities. If you're going to be conducting these exams, considering how can you protect your patient's privacy and ensure you have a confidential area, you're going to have to have a secure place to store equipment and potentially evidence, too.

What's on your formulary? Are you able to provide the appropriate prophylaxis? And then safety is really key. This patient was hurt, assaulted by somebody that they're next to in combat or riding in the same Humvee or whatnot, and we really have to consider how safe are they to stay at that location. You need to know your medevac procedures prior to meeting them, and then how do you contact your staff or team? How do you get ahold of SARC? How do you get ahold of law enforcement, and how do you provide appropriate follow-up care in this environment?

So for role three, you're required to have SAFE capability there, which means, generally, hopefully you have more than one. You need to establish some sort of watch build to make sure that you do have that 24/7 capability. Where are you going to do this exam and secure your equipment and evidence? You should be having some sort of SOP and patient care protocol, and you want to make sure that it's specific to your facility and that it's updated regularly, hopefully with every turnover of personnel. Again, how do you find and communicate with your SARC, your law enforcement, any legal personnel that you need to communicate with? Then you're going to be receiving patients likely from your role one and two facilities, so ensuring that they know what your capabilities are and, if they need to send you a patient, how to have that good handoff.

Those care protocols that Miss Ray put up at the beginning and then I referenced a couple of times, you want to make sure that they have some basic elements, including providing emergency care without delay so that the patient is not sitting in some sort of holding area or waiting area for very long; how you're going to notify the SARC; that initial medical assessment and treatment; we know that medical always trumps forensics, so if they've got a life or limb injury or they have an acute mental health care need, that those are addressed first; for the provision of specific laboratory and diagnostic tests and medications as well. Then we must pay attention to their discharge and safety planning and how they're going to follow up, and then considering whether you need additional information, is there a mandated reporter, or you're just tracking some benchmark information.

I think I've mentioned this before, but you're not just out there with active duty. There's going to be civilians and contractors. They are limited to emergency medical services if they're coming to you and they are limited to unrestricted reporting. You're going to notify the SARC in all cases, though, and if a patient does require a medevac, the victim advocate can accompany the patient to the next echelon of care. Then a follow-up of care may be limited by the medical rules of eligibility, so it may be that you're at a role one facility and you are providing or want to provide SAMFE care but they may be required to be medevaced away from the AOR just based on what the medical rules are.

They're still going to use the same kits per the instruction that says you have to have an adequate supply enclosed there. When you get to where you're going in a deployed setting, I would say at least two to three kits, but you want to know what your historical of that those kits have been, make sure that they're not expired, make sure you know how to order them, and then when you're dispositioning a kit, that you're continuing to maintain that strict chain of custody. The instruction does give us a little more leeway when we are in a deployed environment so we can hold onto it for five days or longer if operational considerations prevent the appropriate turnover.

For follow-up, I mean, they've got to be able to coordinate with their PCM and ensure they have a adequate supply of prophylactic medication. So even before you see a patient, you need to make sure that you have that adequate supply [inaudible 00:39:04]. You also need to know your available mental health resources. If they're returning to a unit that's far forward, how is this going to be accomplished?

Then you need to consider what do you have at your facility? If you have a patient who comes with strangulation and you learned a couple lectures ago that they're going to need a CT scan of their neck but you don't have a CT scan, getting them to the appropriate place. If they've got acute mental health concerns, where is your nearest mental health expert? You want to make sure you know how to coordinate a medevac before you have to do it at 2:00 AM in the morning, so get to know whoever your medical point of contact is. Great. So that is where I will stop with deployment, and next would be the legal portion.

Ms. Ray:

This is Ms. Ray, again. This will be our last lecture in this forensic healthcare refresher training. And so the next part we're going to go through is we're going to go through the role of the forensic healthcare exam, examiner, SAMFE at trial.

So we look here in this diagram here, and we look at what a standard government's case looks like, and you look here. One of the things that the government is looking for is they're looking for the victim testimony, the forensic exam evidence, the chain of custody, law enforcement, and the accused evidence, evidence custodian, and submission, and the DNA testing report and testimony. So this is just a slide that helps to just put it all together as when they're putting a case together. These are some of the elements that are part of what's going into the entire case for this patient.

So we know from the initial training, and then some of you as well have also served as expert and fact witness, that there are two types of witnesses. The first witness that we're going to discuss today is the fact witnesses. And remember, we're just reviewing some of the information with you that I know that you obtained during the initial training. And one of the reasons that we do this is we want to let you know what is still relevant and also include any changes that may come about. So remember, some of this may be stuff that you're like, okay, I've heard this before. That's good that you've heard some of it before, because that means that most likely, that hasn't changed since when you took your training last year or however long it was that you took your training, that those elements have not changed.

And since we have to teach to every examiner, meaning we may have some examiner that this is the first time that they've taken this refresher training, and we may have some that it's been 10 years they've been doing it. So sometimes the person who's been doing it longer may find that some of it is like, well, I've heard this part. I've heard this before. Well, that's what, it's a refresher training. That is what happened. And so we're hoping that we're giving you good information today that will help forward your knowledge and also know what is the same.

So with the two types of witnesses, the fact witness. So this fact witness is going to tell us what the witness saw, what the witness heard, what the witness did, what the witness perceived with other offenses. And so you look at the fact witness, that's you. You would be the one doing the sexual assault, medical forensic exam examination. So this is the element where you did the examination, and you're going to go ahead testify to these elements here. Even our other colleagues that do say you have a provider who does just a medical exam, say somebody broke their ankle. That provider there could be called as a fact witness. So it's very similar to what we do, but in a different sense.

And moving on to the next slide here, slide 234, we have the expert witness. So traditionally, people think of witnesses as either the fact witness, which is that's the one providing the factual testimony without any opinion testimony. Or as an expert witness, which may include the fact testimony, but also includes opinion testimony.

So however your role as a SAMFE often leads itself to a somewhat different type of witness based on how we define the role of the trial, at trial, you're the teaching witness. So what makes SAMFE testimony so valuable is the range of areas that the SAMFE can help the fact finder understand, depending on your experience. So if you look at, for example, remember in the very beginning where we were talking about trauma informed care? Now you can help explain the reactions to trauma and the perceived contour intuitive of behaviors.

So with your expert opinion, you fall under MRE 702, expert opinion. So based on the expert scientific, technical, and/or other specified knowledge, this will help the truer of fact to find, understand the evidence or to determine a fact in issue. The testimony is based on sufficient facts or data. So the

testimony is the product of reliable principles and methods, and the expert has reliably applied the principles and methods to the facts of the case. Whereas MRE 703, that's the basis of opinion. So the expert has been made aware of, or personally observed. So if experts in a particular field would reasonably rely on those kinds of facts or data, informing an opinion on the subject, they need to be admissible for the opinion to be admitted.

So I just want to give you those basic elements of what's going to help qualify you as an expert within your field. So we have the education, that's your education. So your education is required for your accreditation to be considered the expert witness'. They're going to look at your specialty. They're going to look at any training that's relevant to your testimony. So you could even add this training to it. Any of those continuing education trainings that we're putting on monthly, you can attend those and add those to your CV or your bio. You need to make sure that you're trying to keep that up to date. Remember, it's actually easier to do it as you go than it is to go backwards when you need it. So go ahead and start adding that information on there.

Remember your background as a healthcare provider, even within your field. You are doing your field beyond forensic healthcare, you're doing other things. So make sure you can add that too, that as well, because that adds to your expertise as a healthcare professional. Your licenses, your professional certifications, are you published? The one thing I want you to remember is SAMFE is currently not a certification. So avoid that at all costs because that can get you in a little sticky area, because all of us know that SAMFE is not a certification. Now you can be a sexual assault nurse examiner certified, sexual assault for adult, adolescent, or pediatrics through an international association. But right now, SAMFE is not a certification.

Now we are working, meaning Defense Health Agency is working towards getting this certification for the adult and adolescents. That's the first ones. We most like we won't at this point, have it for the pediatric portion, just because the number that's involved. You have to have approximately 500 examiners. And currently right now, that's just not what we have. But maybe way down in the future. Who knows? Maybe we'll have that number. But again, we are working on that certification process for SAMFE, but currently, you cannot say certification. So what we would say is you have a certificate of training as a sexual assault medical forensic examiner, and you have attended X, Y, and Z or a two-week course at the Medical Center of Excellence that has these elements. Remember that first slide where I told you those elements, topics that we're going to talk about? You can use those. Add any general and specialized training that you have.

And they also sometimes want to know the number of SAFE exams performed. So we weren't doing this in the past and I know for some of us that have been doing this for a while, we weren't always keeping track of the number of exams. So I think once you get to a certain point, you may not have to keep track of them as specifically, but as you know, in the very beginning, those small numbers count. Now, you are still confident in performing this forensic examination. Some people just feel that numbers help to qualify a person as an expert. So we'll go ahead and put that information. But again, even if you've only done one, you still have performed what the minimum elements are. And you do know more than the average panel or jury.

They'll also look if you've testified as an expert before and which side you've testified for. Okay? And sometimes you may be qualified as an expert, just because you're always qualified as an expert, as a forensic healthcare examiner or a sexual assault medical forensic examiner. Or it might be that you're qualified in another area. And so they'll qualify you as an expert. And so one of the things to recognize is to what you cannot testify to. You can't testify that they accused is guilty, that the crime happened or didn't happen, or that another witness is lying or telling the truth.

Based on some of our going out to the field or in discussing with some of our fellow forensic healthcare examiners, we noticed that there was a newer role that was being developed, and that is the role of the SAMFE consultant or the forensic healthcare consultant. And so the primary role of this consultant is to educate the attorney. So they provide expert chart review, and they may also serve as an expert witness. So they let the attorney know what they know. The SAMFE who conducted the exam itself cannot be the consultant. And also both sides need equal access since they are also a fact witness. Again, remember when I was talking to you earlier today, I said that you need to make sure that you consult with the MTF lawyer prior to serving as a fact expert or as a SAMFE or the forensic healthcare consultant for every case. So I know some of that may be dependent on where you're working, but it is a highly recommend that you do do that. It shouldn't hold up too much, but again, it may not be something that you're currently doing, but it is something that you need to look at doing in the future.

So some of the questions that we get is what as healthcare providers is really what is the legal team looking for? What kind of medical evidence? What's of interest to them? We want to make sure that when we're doing things, medically and forensically, that they're going to be useful for the patient medically and forensically. So one of the things that the legal team may look at is beyond the examination that the forensic healthcare examiner does is the EMT or the ambulance records. They'll look at the emergency room intake records, or the triage records, the discharge documentation, follow on treatment, and any notes taken by medical providers. So we do have some SAFE items of interest, which for us, for the forensic exam portion. And that can be the sexual assault forensic examination itself, which we use the DD Form 2911 in most cases. Not that our medical record couldn't serve as, and part of that as well, too, any photos.

And most of the time with the photos, most of the examiners are in some facilities, it's when they're specifically asked for those photos. It may be that we're not going to, again, remember when I said even legal or pad, they need to look specifically what's being asked for. So if they don't ask for certain things, they may not get that information. Sometimes they find that the photos are useful and then sometimes the photos aren't useful. They probably need to be used in conjunction with that expert consultant or that expert, or the fact witness to really be useful. They'll look for physical evidence, such as the swabs, the physical kit. The patient statements, medical hearsay, consistent or inconsistent statements, the patient demeanor, toxicology, and injuries, if there's absence or there's presence of finding.

So again, with medical hearsay, we need to make sure that we're using direct quotations and consistent statements. Because they really are looking for those consistencies or that inconsistencies in our documentation. And they also know that we need a clinical reason to collect loss of consciousness. Just not that alcohol was involved. For injuries, they know that the DOD policy is to conduct an exam one week or 168 hours after. And that after 48 hours, it's more difficult to find injury. And that we do use T blue dye or the alternate light source and that the naked eye will not reveal as much. And they know that it should be used and properly annotated on the DD form 2911. They know that the most common injury location is the labia minora, the hymen, the posterior fourchette and the fossa navicularis, and that we cannot date bruises based on color. And they cannot distinguish between consensual versus non consensual sex based on location and quality of injury. And there are no studies on anal injuries with consensual versus non-consensual.

So your role in the courtroom is that you can serve as a fact or an expert witness. This is a really good reference size for you to refresh your memory on your role as a SAMFE at trial. So this is your opportunity to educate and represent the SAMFE practice. This checklist here, of course, take from the beginning. They really appreciate checklists because they help refocus us. So again, are you able to, right now, explain your role as a SAMFE? You're thinking about it, right? Go back to when Commander

Hernandez was giving the elevator speech. Explain the role of the SAFE. It was a really good explanation of what a sexual assault forensic examination is. Now you may have to explain more, but those are good starts.

So however it is that you like to, whether you like to verbalize it, make sure you're hitting those core elements when you're giving that explanation for both role of SAMFE and your role as a SAFE. Be able to explain the details of the exam process and the findings observed. Explain injury versus no injury. Explain common victim behaviors in relation to the neurobiology of sexual assault and issues related to drug facilitated sexual assault.

When you look at the medical witness testimony, you'll see here, we have the background and potential expert qualifications. So we have this sexual assault forensic exam process. And this is just goes through where you consented the patient. You look at the patient history, the physical assessment, evidence collection, and medication and discharge. Then you're also going to look at the medical exam, such as the process, the findings, and the evidence. And then you're going to formulate an opinion, if you're an expert.

So we have the patient history. So as a SAMFE, you ask the SAMFE why does the SAMFE take a history? That's one of the questions that you may be asked. So why do you take a history? You need to be able to answer that. They may ask what is used to take the history? They'll ask you to explain the process. So the best answer is that the history guides the treatment of the patient. It helps diagnose and treat, it guides in the development of a plan of care. And for the history section, if admissible medical hearsay can serve as an earlier consistent retelling of the sexual assault allegations. They do have some hearsay issues with the SAFE, and that's located at the MRE 803 in 4. And it provides as a hearsay extension, a statement that is made for, and is reasonably pertinent medical diagnosis, or treatment and describes medical history, past, present symptoms, or sensations, their inception, or their general cause. The more the SAFE is geared towards medical diagnosis treatment and less like a CID or OSI evidence gathering mission, the more likely the victim assault narrative is admissible.

I think that the system is just a little delayed, sorry about that. So as a SAMFE at trial. So first impressions. Fair or not, people will judge you based on your appearance. So nothing about your dress should distract from your testimony. Concealing information must be avoided. So no arguing, no sarcasm, no smearing, don't be overbearing, no whining to the judge. Be calm, polite, use a calm, polite tone throughout. There are areas of agreement and there are limits to the science and there are also limits to your expertise. So as far as professionalism, as forensic healthcare examiners, we're there to speak to the examination and the science, and really not there to take down another SAMFE. So make sure that when you're giving your testimony or you're looking at things that you're staying in those professional parameters. Sometimes we agree to disagree.

And with the SAMFE at trial, the SAMFE should not appear as though they're advocating for a specific side from the stand. So during pretrial preparation, you should have made yourself available to the opposing counsel upon request. So during the cross examination, you need to use that same pleasant tone. As you use on direct. You should not appear defensive or angry with the opposing counsel. This is the easiest way to appear bias neutral. You need to use a pleasant tone on direct and cross-examination. So your goal is to be objective and provide ethical testimony. It needs to be healthcare-focused. You must be able to articulate the healthcare nature of the medical forensic exam. So while there's a dual purpose to the encounter, the priority is always the health and wellbeing of the patient. And that must be clear in your testimony. Not only does it underscore the objectivity of the SAMFE, it also makes it more likely that you will be able to testify to patient statements under the medical hearsay exception.

So why this hearsay statement? Those are statements that are made outside the courtroom, are usually inadmissible. The statements made for the purpose of your medical diagnosis and treatment, that's the information needed to better care for the patient, are considered to be inherently credible and are therefore allowed. This exception will only be triggered, however, if you can effectively articulate the healthcare focus of the medical forensic exam. So you should expect to know that the medical record well, that you need to know the medical record well prior to taking the stand. So while there's usually an opportunity to have your memory refreshed during testimony, it shouldn't be assumed. So you, as a SAMFE, should thoroughly review your documentation, including all your photographs, prior to testifying and prepare with counsel in order to understand exactly what is expected. So that preparation will make you feel more comfortable and it will make you a more effective witness.

As far as precise terminology, terminology should be used precisely and not loosely. And it's often the case in other areas of healthcare. For instance, while laceration is used for any opening in the skin in most emergency departments, in forensics, medical forensics, a laceration is a tearing injury from blunt force trauma distinguishing from slicing or cutting wounds. So these sloppy or in-artful wording can be problematic for you on cross-examination. So concise. Your testimony should be straightforward, not overly wordy, or you shouldn't ... avoid rambling. You should try and just answer only the question asked and not offer any additional or extraneous information.

To these claims spoken, in providing testimony, you're the teaching witness. The judge, you're teaching the judge and the panel members about healthcare related issues. Few, if any, of the members in the court or the jury, or the panel, will have any healthcare knowledge. So your testimony should be plain spoken and easy to understand. So you need to avoid jargon such as ... Or if you do use it, you need to immediately define it such as say you have a contusion or what is more commonly known as a bruise. So an educator who speaks over the heads of their intended audience is not only ineffective, but it can be potentially damaging, particularly where complex healthcare issues are concerned. So you need to have the ability to find terms and speak as conversationally as you can.

Is it supported by the science? This is a big one here. So, as a forensic healthcare examiner, you may feel pressured whether internally or by counsel to make the case. It's critical to go for you to keep in mind that this is not your job as a SAMFE. Your testimony is only one aspect. Remember those slides earlier that I showed you? You're only one aspect of a much larger case that involves many other witnesses. So in an effort to be as helpful at trial as possible, you may attempt to testify to areas that aren't within your scope of practice or expertise, or aren't supported by reliable science. Where there are doubts for you as a SAMFE, you should share your limits with the counsel prior to the trial. So if the counsel tries to push back, you should be comfortable maintaining your boundaries. To provide testimony that's speculative, outside of your area of expertise, or are not supported by research, leaves you vulnerable on cross-examination. And this can result in an unpleasant testimony experience for you as a SAMFE. S.

So with pretrial preparation, in the Military setting, opposing counsel want to know the nature of the expected testimony, the sources that support expected opinions, other literature relied upon. There is no point in being cagey or misleading during these meetings. Very little testimony that you provide as a SAMFE should be surprising. While it's important not to overshare, avoiding providing information not asked, answering questions in a straightforward manner is appropriate. Now, keep in mind that there is no such thing as "off the record." So you need to try to avoid jokes or sarcastic comments or anything else that would be uncomfortable as a topic of cross-examination. So it goes back to in those slides, remember the slides with the little bubbles on it, Commander Hernandez went through, it was words matter. And I always think back at that slide words matter. Whatever it is for you

to remember words matter. Sometimes post-it notes or little things that pop in my memory when I'm speaking. Words matter in all legal settings, including prep sessions. So mindfulness is called for here in any email exchanges and on the witness stand.

I think I just did in advance the slide, but this is what we talked about here earlier, was that they will expect to know the nature of your testimony. There's no reason to be misleading or hostile. Don't overshare, provide citations of articles that you relied upon. You see within our slides here, we gave you citations. Those are excellent articles for you to go back and read on your own so that you're familiar with those articles. And again, assuming nothing is off the record.

So it's appropriate for you as a SAMFE to provide expert consultation and witness testimony. This is assuming that you're qualified to do so. And you can do this for either the government or the defense. So you're not, as a SAMFE, inherently a government witness. You may be called more often or SAMFE may be called more often to testify for the government because the government called the treating clinician as part of their case in most instances. However, as a SAMFE, you should work for the defensive [inaudible 00:24:44]. So we know that justice is best served when both sides have access to current practice standards and science. So providing assistance to the defense also underscores a SAMFE's objectivity. The exception to providing defense assistance would be in cases where there's a conflict of insurance, such as when another member of the team is a treating clinician in the case.

So with direct examination, during testimony, first a SAMFE will be questioned by the requesting attorney. So this is what we call direct examination. These questions will be open ended, and they will highlight general information about your professional background as well as case-related information. So as SAMFEs, you can expect to discuss your education, your assignment history, your specialty board certifications, and practice specialties, if they're applicable and the parameters of your current duty assignment. You may also be asked questions about new publications, your teaching experience, and other professional activities related to your testimony, particularly if they will be qualifying you as an expert.

While direct examination is to present the government's case or in the case of the defense present the witness to rebut the government's theory or present alternate theories. So throughout the testimony of the witness. So this is achieved by asking the witness a short question, and then allowing the witness to provide a narrative and a thorough response. So for direct examination, they may ask you, like we said again, your occupation, your job history, your primary and your secondary duties, your educational background, your SAFE experience, or similar examination. This would be where you're doing those mock examinations. Remember when you go back, were your credentialed through CC clause or your credentialed. You went through the credentialing process. You're current. And they also might want to know your current position.

To qualify the SAMFE as an expert, some of these things is, would they qualify? Can they do ... They may look at, would you qualify as an expert? Do they need them to specifically interpret causes of the findings and are the findings equally consistent with the consensual sexual activity?

So following cross-examination, the requesting attorney has the opportunity to redirect a witness. So asking questions that are on issues that may have arisen during the cross-examination. So this is an opportunity for the witness to explain or answer or clarify answers previously constrained by the opposing counsel. So there will be a recross at the discretion of the judge, and this is really just narrowly confined to addressing issues brought up during the redirect. So depending on the judge, this process can repeat itself with the requesting attorney generally being offered the last opportunity for questioning the witness. So panel members for the Military may ask you questions, unlike the civilian sector. So the questions on written, then reviewed, and as allowed, they will ask the questions. And so

we thought it was really important that we know that you brought it up in the initial training, but just so you know that this still still current.

A deposition. So a deposition is taken when a witness cannot attend a trial or a hearing, usually for a bonafide reason, such as medical or travel restrictions, such as what we have right now with the travel restrictions with COVID. So it may be that we see in the future, if we haven't already seen that we have more facilities asking for depositions. I had to, when I was stationed over in Europe and I couldn't travel back to location, or they didn't want to wait until I came back from the location, I would think I was Italy and I needed to go back to Germany. In that case, then they asked for a deposition.

And one of the things I would remind you about a deposition is that they faxed over, it was faxing at that time, they faxed me over the medical record. And I reviewed that medical record and I had it with me and I had it all laid out on the table in case they asked me questions, because this is before we could do like the Zoom-type calling or the Office 365. And so they did ask me towards part of it, do you have the documents in front of you? And I'm like, yes. Well, you need to put those away now. So even in that case, you can't just lay them all out and look at them. They still want you to review them and then provide, from what you see from that, provide your testimony.

So these depositions are used as part of discovery and discovery is basically what it sounds like. It's a process of finding out before trial, what a witness has to say. So through a deposition, the attorney can discover everything you know about the case and how it will relate to the panel.

And so literature, exhibits and demonstration. This slide here, this literature, you need to know the medical literature that's relevant to what we do for sexual assault medical exam, for forensic healthcare. We have attached, you'll be able to download the references for these presentations that we have here.

Again, I'm going to challenge you. You need to pick one, you need to read through one of those, and that's going to be your article. Then maybe you need to do this once a month. You need to set your goals. If not, you can contact me or one of the other examiners and we will help you set those goals for you. But I do challenge you to at least with, for this year, for this refresher, choose one of those articles off the list or any other article and put that ... Start knowing what these articles are and put them in, maybe in a little box that you have, where you keep all the articles, the most current literature that you're reviewing. You need to be able to explain the literature to the prosecutor and the defense counsel. They know what's out there. So there's nothing like ... Asking them, as well, too.

But you should be able to run that by and make sure that's the current practice. Remember we're the medical healthcare professional, it's all based on interpretation of how your interpretation ... Is it peer reviewed? Is it relevant to this case? You need to have the ability to describe it in court. Know your strengths and your limitations, know the strengths and limitations of the article. And so maybe in the near future, we'll be putting together a literature review. So we'll know some of those, give you some of those strength and limits to those articles. Maybe in the future. So again, how does the literature help advance the information?

And you also look at exhibits and demonstration. Can you stand up and demonstrate? In your initial training that you had, and then maybe some of you have testified. I've heard that some people have to demonstrate, but we have went through what you may have to use some training material. Do you have training material that can assist and explain a complex medical procedure? Could you use the patient's own medical imaging to explain the findings? Those are what are considered exhibits and demonstration.

All right. So our final thoughts here is that we want you to welcome opportunities to educate the court about your experience. You need to practice explaining your role. You need to know your

facility's policy and procedures. And it's very beneficial for you to meet with your legal team and learn their world and educate them about what you do. So these follow on slides here, that is what we have for the legal portion for today and the SAMFE at trial.

And so I'm sure that down the road, you probably formulated some questions. You're going to be able to ... You'll have our emails and you can email us those questions. You can choose one of us, or you can email to our education, the DHA Education Group email box. And we will get back to you with the answers to some of those questions, being that this will be at your leisure that you take this course. So again, they're probably really good questions and so we want to make sure that we're available to answer them.

So these following slides that we have here is some of the key takeaways. Now, these key takeaways, I read these key takeaways in the beginning because I'm not going to reread each one of them here, but these key takeaways, this is what you should have come out with today. So you need to review through each one of these and make sure that you have met them. There's three slides of these. And the reason that I put this back on you is because if we didn't assist you in these, in meeting these objectives, we need to know it. And sometimes because it's so lengthy, the information may have been in there, but it may have been that you missed that information and we can go back and redirect you. So again, if anything, take these. Look at these objectives and say, hey, can I explain the forensic healthcare team approach, informed consent, and patient-centered care and trauma-informed care? And if you're like, yep, that's what we need to hear.

I know I'm going to get these evaluations back, because you're going to evaluate this activity. Those evaluations are perfectly fine. But if you really truly have a question, those evaluations, I don't get who they're from. We need to hear from you because we're not saying this only helps to benefit each one of us. So please make sure that you review through these objectives and that you've clearly got what you need to from the objectives here today. Okay? So again, with these key takeaways, that's the end of our presentation. We will have the reference list available for you to download. And that's a reference for all the slides that we have presented here today.