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Assessment of Pressure Ulcers

Presented by **Jeri Ann Lundgren, RN, BSN, PHN, CWS, CWCN** Pathway Health Services
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Kristi Wergin:

Hello everyone, this is Kristi Wergin with Stratis Health, the quality improvement organization in Minnesota. I would like to welcome you to this educational session entitled *Assessment of Pressure Ulcers*. Our featured guest speaker is Jeri Ann Lundgren. Ms. Lundgren is the director of Wound and Continence Services at Pathway Health Services and the Director of Clinical Services at Gulf South Medical Supply. She's a national wound care consultant and is Board certified by the Wound, Ostomy and Continence Nurses Society and the American Academy of Wound Management.

For more than 10 years Jeri has provided consultation on wound care, developed and presented staff educational programs locally and nationally and has developed effective policies and procedures for wound care management.

She's also worked with Crisis Management and litigation support in the long-term care industry. Welcome, Jeri, and thank you for being with us today. I will now turn the presentation over to you.

Jeri Ann Lundgren:

Thank you, Kristi, and welcome to the Assessment of Pressure Ulcers. In this training module, we'll walk you through how to do a proper assessment of a pressure ulcer, which will include the staging system, how to do proper wound bed assessments and how to thoroughly measure and describe a pressure ulcer.

It's very important to note that this training module is specifically for pressure ulcers, in particular the staging system is meant for pressure ulcers and pressure ulcers only, and should not be utilized for wounds of other etiologies. It's very important to look at what the definition of a pressure ulcer is to ensure that when you do utilize this assessment process that it's a pressure ulcer you're assessing.

Simply, the definition of a pressure ulcer is a localized injury to the skin or the underlying tissues, usually over a bony prominence, as a result of pressure or pressure in combination with shear and/or friction. It's very important that you look at that definition when you're looking at a wound.

Many times pressure ulcers are seen over bony prominence because you have the pressure of the bony prominence squeezing the tissue between the support surface the resident or patient is on and that tissue dies.

It's also important to note that you need to not only be aware of pressure that can contribute to pressure ulcers, but again shearing and friction forces can also cut off blood supply and contribute to the formation of a pressure ulcer.

It's also important to note that many times by the time we see any kind of skin or tissue damage, a lot of times it's the iceberg effect, meaning by the time you see damage at that skin surface it's going to be a much deeper and bigger wound many times. The reason is that your muscle and soft tissue dies off much faster than your skin actually will. It's very important to monitor the skin and monitor it very closely to ensure that you're not getting deeper wounds.

When it comes to the assessment it is important to note, depending on your care setting if you're a long-term care, you should be monitoring that pressure at least daily. If you're in the home care arena you definitely should be looking at it at each visit, making sure if there is no dressing in place. If it's maybe a superficial wound or you're just doing an ointment, you should be at least looking at it. You should be assessing the status of the dressing if there's a dressing present to make sure there are no signs of complications and that the dressing is still intact, and then also assessment for pain and making sure that pain is controlled.

From there a comprehensive assessment regardless of the care setting you're in needs to be done at least weekly, meaning at least every seven days. However, if there are complications noted with the wounds, you may want to increase that assessment until you feel that the wound is under control and go back to that weekly; or it might even depend on the type of dressing you're utilizing.

Some dressings might remain in place let's say for every five days. So instead you might want to do the assessment every five days. That way, you're not removing a dressing before the time that it's due. The overall goal with the assessment is to ensure that your wound is showing progress to help you determine your continued treatment plan.

A pressure ulcer with adequate blood supply and innervation should show evidence of stabilization within at least two to four weeks, so you should be seeing progress. Typically, if you're not seeing progress at the two week mark we recommend that you re-evaluate the big picture to ensure that everything is in place. To help ensure that your wound progresses to heal or maybe looking at the overall condition of the patient or resident to see if there might be contributing factors as to why that wound will not heal.

From there you want to do your comprehensive assessment and you should start with the wound in that assessment. It's very important to describe the tissue in the wound bed and to use professional terms. We don't want to recommend that you use simple terms such as red, yellow or black to describe the tissue.

The reason is that it is a professional assessment and we want to be perceived as professionals. Therefore, we should be utilizing terms such as necrotic and eschar, slough, granulation and epithelial tissue, and I'll walk you through each one of those types of tissues.

The term for the black, brown or tan tissue that you see in a wound bed would be necrotic or eschar. It is interchangeable to use either necrosis or eschar tissue. With the eschar tissue, it can be either really firm, hard or leathery like you see in this picture right here, or as it debrides out it can become more liquefied in consistency, but again it's that brown, black or tan tissue in the wound bed.

Slough would be the term that you would use for the tissue that you're seeing that is yellow or white within the wound bed. It can be very superficial. Meaning it can be just a thin layer that you might see in wound bed or it can be very thick, almost hair-like, stringy-like in consistency depending on how much slough is in the wound bed.

Granulation is a term that you use for the pink or beefy red tissue in the wound bed. This is the tissue that we want to see, the tissue that is showing us that the wound is progressing and it is healing. You want to assess that granulation tissue and healthy granulation tissue should be that beefy red. It should have a shiny moist kind of a granular bumpy appearance to it.

It's very important when you assess your granulation tissue that you assess if it's healthy or not. If you have a very dull pink, kind of a smooth wound bed that's even kind of looking dry, that's not good healthy granulation tissue. It's probably not getting enough blood supply, or the opposite of it is you have a wound that might appear granular in nature but it's not showing any progress. Really assess that granulation tissue because granulation tissue can become infected and it's known as friable granulation tissue. How it will appear is overtly beefy red and it will bleed in kind of mushy inconsistency. It's very important that you also evaluate the healthiness of that granulation tissue.

Lastly, an epithelial tissue would be the term that you would utilize for the skin that is now migrating across the wound bed. It's important to note that in dark pigment and skin, it might not have pigment to it.

So that new epithelial tissue might be actually very white in appearance or have a very light pink coloring to it because it does not have the current pigment as of yet.

How you want to describe your wound bed is you want to describe the tissue by the percentages. As we look in this picture, if I was to assess this wound when it comes to wound bed description, we want to include all tissue from the original state.

If you look at this picture, we would want to include the epithelial tissue that's now grown in. I would describe this as 30% epithelial tissue and 70% granulation tissue. It's very important that it should equal 100%.

Next after you've looked at your wound bed description, you want to go ahead and stage your wound. Simply what staging is, is telling you the depth of destruction that you're able to visualize. There are now considered six stages, and I'm going to walk you through each one of those stages.

A Stage I definition means that the skin is now intact with non-blanchable redness and it's typically, as it says in the definition, usually over bony prominence but it could be from another source of pressure – let's say maybe an oxygen tubing or something of that nature.

It's very important with Stage I that if you're calling a pressure ulcer Stage I, you are saying that you feel the damage is very superficial and isolated to the skin only – meaning you don't think you have the iceberg effect. Meaning you think that damage is to the skin level only and doesn't go any deeper. It should be very light in discoloration. And upon palpation, it really shouldn't have any consistency changes to it.

Here are some good pictures of a Stage I. The one off to the left, you can see is very superficial, isolated to the skin and then those two pictures off to the right, again very light discoloration to the skin. It's important that you know the difference between a Stage I and a suspected deep tissue injury, because this is your other option if you now have a pressure ulcer that also has intact skin. But the difference between a deep tissue injury and when you go to document, you can use the acronym DTI to make your charting a little bit simpler.

The difference between this is if you've called the intact skin a deep tissue injury, you're saying now that you think the damage is deeper than the skin, meaning I think I've got that iceberg effect. Due to the characteristics, I feel that my wound is going deeper than just the skin level.

Characteristically how a deep tissue injury will look is again that intact skin but the discoloration is going to be very dark in color – very dark purple, dark red, dark maroon discoloration to that intact skin.

Upon palpation, if you have any consistency changes that might be really firm in that area or it could be very mushy or boggy in that area, that's telling you that the damage is deeper than the skin level.

Also if you have a blood-filled blister secondary to pressure – so not a blood-filled blister from another etiology would call it a DTI, but if it's a blood-filled blister secondary to pressure due to the fact that there is blood in the blister, that indicates it's deeper than the skin level, so that would be considered a deep tissue injury.

An example of that would be the heels. Many times you see that blood-filled blister on the heels and that would be considered a deep tissue injury.

It's also very important to note in this definition the very last sentence – evolution may be rapid exposing additional layers of tissue even with optimal treatment. This is why it is so important to know the difference between a deep tissue injury versus a Stage I, because if you've stated it's a deep tissue injury from the get-go. Again, this supports the fact that it's an iceberg effect, that there's a good probability there's more damage underneath and that your wound may continue to erode to expose the actual layers of destruction.

Versus, if you say it's a Stage I, you're saying the damage is only at the skin level. If it does progress to a deeper wound, it looks like your wound is actual declining from a very superficial wound being a Stage I

to a deeper ulcer versus a deep tissue injury where we expect that to turn into either a Stage III or IV. We just don't know how deep it will go at this point.

Here are some good pictures. The ones on the left are a very dark purple discoloration. The skin is intact, and then off to the right where many of you have maybe seen that blood-filled blister that we tend to see particularly on that heel area.

A Stage II means you now have a break in the skin. The skin is no longer intact but the break in the skin is isolated to the skin only. It penetrates your epidermis into your dermis layer but does not penetrate through the skin.

Characteristically a Stage II is going to be very superficial with red/pink wound bed only. There should not be any slough or any eschar in the wound bed. If there is any slough, even if it's a really thin layer that you can kind of see through, slough is telling you that it is deeper than a Stage II and that you have dead subcutaneous in there, meaning you have either a Stage III or it could even be deeper. A Stage II should be very superficial pink wound bed only, no slough or eschar.

If you have a serum-filled blister, again that is secondary to pressure only. If it is serum-filled, serum indicates that it's isolated to the skin level only and you would consider that a Stage II versus the blood-filled blister, which would be that deep tissue injury.

It's very important under the further description they reiterated the fact that this stage should not be used to describe skin tears, tape burns, peritonal dermatitis, maceration or excoriation because again we only stage pressure ulcers.

Nurses have a tendency when they see these types of skin damage, they want to stage it as a Stage II, but it wouldn't be appropriate because it is not a pressure ulcer.

Also you see a little asterisk there at the end that says bruising indicates suspected deep tissue injury. That does confuse some clinicians. They think if somebody has a bruise that it's considered a deep tissue injury, but it depends on the etiology. If it's a bruise from a trauma – let's say somebody falls and hits their head and has a big bruise on their head – it would not be staged as a deep tissue injury because that is not a pressure ulcer.

Only if the pressure ulcer is presenting it characteristically, like a bruise-like appearance, then you would call it a deep tissue injury.

Here are some good pictures of Stage II. You can see very superficial granular wound beds only. How these heal is epithelization where that new skin will migrate across that wound base.

A Stage III means you now are penetrating through the skin. The skin is now penetrated. You're into subcutaneous tissue but you're not seeing any visible bone, tendons, muscles or anything past the underlying fascia.

In Stage III it's very important to note it can be very superficial. Your skin is not very thick, so it doesn't take much for the skin to be gone and to be into that subcutaneous tissue. Depth doesn't determine stage necessarily because you can have a very superficial wound and be at a Stage III level.

You could also have a very deep wound and still only maintain at a Stage III level, meaning if the person has a lot of subcutaneous tissue, it might need to go much deeper for it to ever become a Stage IV wound because they have so much subcutaneous tissue. Again that does not determine that stage level.

Here are some good pictures of a Stage III. You can see the one on the left is actually a superficial wound but you can see that slough tissue is kind of mixed within there. The one picture off to the very right is the one that was debrided out. It had an eschar cap to it but it was debrided out. It's now to the underlying fascia, but we're not seeing exposed muscle, tendons or joints, so therefore it's at that Stage III.

Stage IV means now you're penetrated all the way through that subcutaneous issue. Most nurses are fairly comfortable with a Stage IV. Once you're in a Stage IV, that's when you actually see your exposed bone, tendons, muscles, joints and joint capsules – those underlying structures. It's also very important to

note that again just like with the Stage III, the depth of it doesn't denote if it's a Stage IV or not. It can be very superficial.

I always use my elbow, for example. You can't see it in my elbow but most people's elbows, if you look at that bony prominence, there's not much subcutaneous tissue there, so it wouldn't take much for the skin to be gone and for you to have a Stage IV wound that is very superficial. Again, how deep it is doesn't always indicate the stage. You need to look at the anatomical structures that you're looking at.

If you see undermining or tunneling that's usually an indicator. Once you have undermining – and that is the shelf-like effect that you see underneath the surrounding skin. It's that little shelf that you can kind of lift up, or if you see a tunnel. A tunnel is an opening that goes in one direction in the wound.

Typically that's indicating that you are deeper than a Stage II. If undermining is involved, that means the skin is lifted up off the underlying structure, so you're know you're deeper than a Stage II. It could be a Stage III or Stage IV. Typically if you do see a tunnel, a lot of times those are signs of tracks and once you start seeing tunneling, it usually is a Stage IV at that point.

Here are some good pictures of Stage IV where you can see some joint capsules and actually necrotic bone off to the one to the right.

Lastly, is the unstageable. What unstageable means is that the wound bed is now covered with eschar and/or slough and its obscuring that wound base so that you can't see the true depth of it? By calling it unstageable, we know it's going to be a Stage III or Stage IV because the skin is long gone. The dead tissue you're seeing is that subcutaneous tissue or fibrin.

So, it's very important with an unstageable that even if it's obscuring the wound base but you're starting to see a little bit of the wound base, if you don't feel like you're fully seeing the true depth and damage, continue to call it unstageable until you feel you can accurately stage it at either the III or the IV at that point.

Here are some good examples. The one on the left 100% covered with eschar would be considered unstageable, and then the one to the right is 100% covered with slough, so it would be considered unstageable.

Once something is called unstageable by saying it's unstageable – meaning we just can't accurately tell how deep the damage is. We don't know if it's going to be at a III or a IV level, but once that eschar and/or slough is removed and you can fully visualize that wound base, you can now accurately stage it at Stage III or Stage IV.

The picture that you're seeing here – the one to the left – we'd call it unstageable. It was debrided out and now we can accurately stage it as a Stage III.

It's important to note that staging is meant to just communicate the depth of damage. It is not a diagnosis. It is part of your observation or your assessment. It's also important to note that once it's staged, it can never be back-staged. It can always go deeper, so if you're at a superficial level at the skin, it can always go down into a Stage II or deeper to a Stage III and down to a Stage IV, but it doesn't heal in reverse stages.

Once it's staged at its deepest point, it should always remain at that. Even once it's fully closed you would still call it – let's say it went down to a Stage IV. Once it granulates in and epithelizes and closes, you would call it a healed Stage IV, not a Stage I because we don't back-stage it.

How we denote healing is by the measurements and the contraction and the filling in of the granulation tissue. That's how we assess for healing. It's very important once it's a Stage III or once it's a Stage IV, it will always remain at that deepest level.

When it comes to measuring pressure ulcers, you always want to measure in centimeters, and we recommend that you always do linear measurement – meaning using a ruler. We don't recommend – you'll see many measuring devices that have what looks like a target or a bullet type of round circular

measurement. That can be very confusing and depending on how you line it up, you can get very inaccurate measurements.

It is recommended that you use linear measurements with a ruler in centimeters, and your length would be the longest length that runs more head to toe. It doesn't have to be perfectly perfect head to toe, but your longest length than runs more head to toe is your length, and then your width is the side to side measurement at a 90 degree angle to the length.

If you look at this picture, the head of the person – you see that little white arrow is off to the right, so that white arrow there would actually be your length, and then the dark black arrow is at that 90 degree perpendicular to the length. That is measuring your width.

Next you want to measure depth if it has depth. If it's very superficial – let's say it's a Stage II and you can't get a true measurement because it's so superficial – just write superficial. However, if you can get a measurement, always use a moistened Q-tip, put it in at the deepest level, mark it off at skin level and then measure it in your centimeters.

If the wound has tunneling or undermining, this is when we use the clock system – 12:00 o'clock being the head of your patient or resident and again undermining that shelf-like effect. What you'd want to do is describe where the undermining extends from.

You might want to say – let's say it extends from 12:00 o'clock to 4:00 o'clock – again using the head of the resident or patient as that 12:00 o'clock orientation. So from 12:00 o'clock to 4:00 o'clock would be your undermining, and then you want to gently probe with a moistened Q-tip, find the deepest point and then indicate at 2:00 o'clock is the deepest point and how many centimeters. So it would say undermining from 12:00 to 4:00 at 2:00 o'clock is the deepest point at two centimeters.

If you have a tunnel, you just need to find where the tunnel is. In this picture it looks like it's at about 7:00 o'clock. When you probe tunnels be very cautious. Again use a moistened Q-tip, only probe it if it's safe to probe with the cotton tip and if it's too small of an opening for the cotton tip end, I recommend that you do not measure it or probe it. Actually just say there's a tunnel at 7:00 o'clock.

If you can safely probe it, do it very gently so that you don't cause any trauma or reopen the area. Once you meet any resistance, mark it off at skin level and then measure it against your linear ruler.

Wound drainage is very important to assess because it can tell you if there's a potential that your wound is infected, if it's debriding out and things like that. Also it will determine the type of dressing you're going to use. If it's not draining, you're going to do very different types of treatment to it than if it's a draining type ulcer. It's very important that you note the amount, color and consistency of the drainage and continue to monitor that.

The surrounding skin is also very important to include in your assessment because that can tell you a lot about what's going on with your wound. You want to look at the surrounding skin. If you see anything like iracema, which is that redness or edema kind of swelling of the wounds edges, warmth or induration, that might be an indication of a potential for infection.

The wound edges might appear macerated or irritated from too much drainage, so it might be telling you if a treatment is not managing the drainage appropriately. If there's pain or if you see really dark discolorations – if you have very dark wound edges that have some consistency changes – that might be an indicator that you actually have deep tissue injury and that your wound is probably going to get bigger.

The other thing I tell patients is if you ever feel gas bubbles that's what the term 'crepitus' means is that you're feeling gas bubbles, and again that could be a sign of infection.

Another thing that you always want to assess for is odor, but it's very important if you assess for odor that you assess it only after you've completely removed the dressing and irrigated the wound out. Drainage by nature as it sits on a dressing for a period of time by nature it's going to have an odor to it. That is completely normal. In fact some dressings when they interact with a wound do cause an odor.

It's important that you note the odor as present with actual wound bed. Remove the dressing, irrigate it out. It sounds a little gross to do, but go ahead and re-smell the wound and if the wound does have an odor, then you would actually note that there is an odor associated with the wound.

It's also very important to assess pain – the nature, frequency and how you're managing it. It's kind of misnomer and a lot of people think that people don't have pain with pressure ulcers, especially on dressing change, and that's simply not the case. You should always be anticipating it to make sure that the dressing change is comfortable.

Pain can also be an indicator of infection, especially if they're having pain that's not associated with the dressing change. Breakthrough pain, additional pain all can be indicators that the wound is getting bigger and/or a potential for infection and watching for those signs of infection. That's very important to do with your assessment.

We've got some available resources and websites for you to get more information on the pressure ulcers. I hope you found this training session helpful to you as you assess your pressure ulcers, and I'm going to turn it back over to Stratis.

Kristi Wergin:

Thank you very much, Jeri. This concludes the webinar. If there are any questions, please contact us at Stratis Health at Info@StratisHealth.com.

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