

## **Sports Dermatology (Part 1)**

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--book review Dr. John Williams. I've been working with athletes now for about 12 years. I started out with St. Agnes where in Concordia, where we had our fellows working as well. We've got a lot of experience working with them. It has been a lot of fun. But at the same time it's been a ongoing lonely journey since then.

Because we have limited time, I want to just do a quick little review. We're going to talk a little bit about wound care. And then we'll get into some of the conditions that you're going to see. We're in the middle of wrestling season. So I want to talk about some of the skin conditions that you might be running into and how we're going to handle it.

Quick review, we can go up take a look at this stuff later. And I've got some of the occlusive materials up here, the tegaderm. We have the [? Opticyte ?] flesh. That's a roll. We've got some of the absorbent type of gauze.

There's different types of wound things, wound blood control. We've got the hypochloric bandages for absorbing moisture. [INAUDIBLE] as the wound is healing over. And a couple of them that are cover and [INAUDIBLE].


You're going to start seeing a lot more silver being used for the simple reason that with antibiotic resistant bacteria, it's not resistant to silver. So you just got to remember with silver, that is not the silver metal itself, but it's the ionic form of silver that's actually detrimental to bacterial structures. As it penetrates through the cell wall, adheres to the cell wall that penetrates in. And it disrupts their [INAUDIBLE] metabolic system, which causes them to die off.

But you're going to start seeing more and more bandaging and dressings that carry silver with it as well too. So for us in the sports world, out there on those fields, we're going to have wounds, especially abrasions and stuff like this, where it's going to be contaminated. It's not infected, but at the same time something like this can act as a nice prevention.

Clean it up. Put some [INAUDIBLE] on it to make sure we're not going to cause infection. And then pull it off afterwards.

So let's just take a quickie review of some basic wound care, physiology of the wound care. As you remember, hemostasis typically is the first stage in which we're just getting blood clotting. As soon as that blood starts hitting the air, it does start clotting, it's congealing.

The next stage is the inflammatory stage, in which things start-- we've got our [INAUDIBLE] responses. And we start seeing our inflammatory [INAUDIBLE] and other materials that will stimulate increased flow into the area. Your proliferation phase, your granulation phase, this is where we'll also see the development of arterial structures of venous structures being replaced.



Contraction of the wound, [INAUDIBLE] myofibrils. And then the maturation phase is the remodel. This can take, depending on the tissue, anywhere up to years, to a year and a half to two years, depending on where we're at.

With the first injury, the first thing we want to do in those first 24 to 48 hours, keep it moist. This will keep it from drying out, crack, and splitting. And if we can control it and maintain some moisture over top of that wound, it'll heal better. They'll have less scarring, be more comfortable. After about 48 hours, then we want to keep it dry, keep water off of it, allow it to go through as standard process. After about 24 hours, 48 hours, we can start washing, real light, especially around the area. Pat it dry. You don't want to rub it off and start breaking up that scab that's being formed there.

Topical agents, many times early on, it's not a good idea. They can actually cause growth of bacteria, because most of our antibiotic creams are petroleum based. However, they do reduce the crusting. They do reduce the swelling and the drying.

But this is why I'd rather use something like your silver products at this point in time. They're not quite as drying, whereas your petroleum based, they can interfere with it. They will allow for a [INAUDIBLE]. If we have any type of contamination underneath that, it can kill off some of it, but at the same time, it can allow for some colonization to take place.


Water, the infection is the biggest thing, especially since we're working with athletes, injuries take place, wounds take place outdoors, even in the gym, whatever. We're going to have a chance of contamination and infection. So we do need to monitor these. And just remember that these infections, if they stay local, not a big problem. We can take care of it pretty easily.

But it's when we start getting those wounds, and we get [INAUDIBLE] traveling up the arms. Just remember with some of that cellulitis and those infections, they can spread up the arm in hours. So we got a nasty wound infected in the hand, I've seen it go within four hours from a hand to the armpit. So just be aware that we got to move with that.

And here's some of your wound closure material. I typically carry or used Steri-Strips. Many times, it's just a lot easier. It's a lot quicker. You get the wound cleaned out, seal it over. They're good to go.

We can put them back in. We can let them play again. Wrap it up and seal it off. Put your tegaderm or your occlusive bandage over the top of it, wrap it up.

If the parents don't like it, we've got to close up. We've got the bleeding stopped. We're closing it. So let them get off to the hospital. They have up to five hours after we close it, for the emergency room surgeons to open it back up and reclean it and reseal it or stitch it, whatever they want to do.



If they wait more the four to six hours, then they actually have to slice it back open. And it's not a good idea. So typically, they don't. One thing is, as you get known to the parents and to the emergency room docs in the area, typically, we send someone in, a parent brings their child in, they're going to let it stay if it's done. If we got it nice and cleaned up if we've got a good seal on it.

Here's just a few more things. You going to see all sorts of different bandages and stuff out there. The occlusive ones we're going to be using especially for ringworm, molluscum, a couple other viral conditions that we can allow players to play with. Your colloidal ones or hypo-colloidal-- these-- or hydro-colloidal, rather. These are the ones where the wound has [INAUDIBLE], a little drainage.

We need to absorb that [INAUDIBLE]. So we'll use those for that. And there's different brands of your silver compound. And here's the wound cleansing material that I carry with us for wound cleaning right on the site. It's anti-microbial. It's not a true antibacterial.

The reason why I use the anti-microbial is because we're in a stage of contamination not in infection. And at the same time, our skin usually does have, or I should say usually always has bacterial content to it. So we don't have to have it completely sterile when we wrap it up. But this will clean it out real nicely.

It's also-- it doesn't sting. We can absorb it off real quickly and close up the wound, whereas if you use your iodide or some of the others, they actually sting and it can be disruptive to healing tissue. It's nice for cleaning around, but for actually getting inside the wound, it's very difficult and painful. It slows down the process of getting our athletes back into play.

So let's take a look at some of the skin conditions now. And we'll just go through real quick blisters. Blisters and your abrasions, we can take care of those. One of the things for blisters, 18 gauge syringe needles, fantastic. You can pick these up at the pharmacies.

I like them because they got that patient razor tip to them. Slide it in the base of the blister. Just let it through the side. Use your sterile gauze to drain it out. And then you can put your mole skin or what other material that you have over top of it to protect, get them back into play.

As long as we've got it covered and they're comfortable, we can get it back into play. Needles-- sewing needles and other things that everybody else uses, not a good idea. I'd rather have a nice sterile needle that you can open it up and get a good rain off of it with.

Your abrasions, again, clean them up. Your silver compounds or your silver dressing goes over these nicely. And then you can use your vet wrap or other things to tape it down, hold it into position, and allow them to get back into play. Because with these, they will seep, and those silver bandages will have absorbent qualities to them as well, and prevent any further growth or colonization taking place until we can get them out and really get it cleaned up.

Biggest area where I had problems with this is with softball and baseball, sliding and opening up knees, opening up elbows, and those things that just continue to seep because they're under constant motion. But with these bandages, they can fit around them, and they will move with them a little bit. So it makes it nice and easy.

And you're not always going to get all that sand and grit out of there at the game. And then we get right back in. So that's the reason why I would start recommending using the silver just to prevent any further contamination till you can get home.

What we're looking at-- when we look at communicable diseases, these are going to be our skin diseases that we have to worry about. I've got the NCAA manual out here. A chapter is open to their skin conditions. So we're going to talk through those pretty quickly here.

But the National Federation of High Schools typically follows that. Minnesota High School League following those conditions as well. So for your wrestlers and other sports--

Here's your Minnesota High School League recording form. So if you have a kid that has a herpes virus, you got to make sure it's clear off. And here's your reporting form to do that. You have a kid that comes down with molluscum, it's a virus, it's a pox virus.

We get an infection, as long as those nodules are on the body, they cannot play, especially with wrestling. But if we can clear them off, we're good to go. I'll give you some of those exceptions for that.

Looking at bacterial infections, NCAA, you have some National Collegiate Athletic Association. And our high school leagues follow it. Bacterial infections, no new lesions within 48 hours. So basically, we're looking at [INAUDIBLE] impetigo. You know how that kind of spreads?

You know a little spot. And then the next day or four or five hours later, you got another little spot. So as long as they don't have it spreading for over 48 hours, we're good. They also have to have completed 72 hours of antibiotics.

Now here's the rub. NCAA, Minnesota High School League, all require MD or DOs to sign off them. So they have to use prescription antibiotics. Now as DCs, yes, we can put them on our anti-microbials, herbals, and things like this in between. But make sure they are on antibiotics, otherwise they could not be cleared. So this is just one of those difficult situations.

And again, it's the idea that you do not want to be responsible for spreading impetigo through a team. Yes, there's good ways of treating impetigo. And typically, you can get it cleared off within about 48 hours. But if somebody catches it in between, and you're doing it alternatively, you're going to be liable. So get the antibiotics and use our natural therapies along side of it.

So these crusts that form, or the seeping wounds that form with your impetigo and other infections, they've got to be dry. They've got to be crusted over and scabbed over. So and then no bacterial infections-- active bacterial infection shall not be covered to allow a participant to play. Again, even though the impetigo is only in this area here, that can be covered. It doesn't mean that two hours later something will show up on the other side of the fence.

So with bacterial infections, everything has been closed off and finished off before you get it back into play. Your impetigo-- this is very common. And it goes through families, it goes to teams like wildfire, very, very contagious. It's a staph infection.

If once they cross and they seep, so you're going to get a little-- it looks like a very shallow ulceration, and then it starts seeping. So you have a lot of serous material. Now remember with serous material, it's also full of glucose. So it does tend to stimulate further bacterial growth. And that's what allows it to spread.

Also because of the crusting, it gets very itchy. So the person is going to be scratching, picking it off. And then he goes and scratches someplace else. And now it's spreading. So this is very, very contagious, and it needs to be cleared off.

Typically, you should be able to clear impetigo off with the antibiotics and with alternative stuff within about 48 to 72 hours. It's very responsive and very quick. The stuff we have to worry about is the cellulite. This is going to be a deeper infection.

This is one that's going to be down underneath the skin. It's going to be red and inflamed whereas within impetigo yes, it will be red, but it's not really inflamed and it's very seepy. It's very superficial. This is deeper. Even though it's deeper, it's still a bacterial infection.

And if we get a cut or a break in the skin here, it's going to spread. The other thing that you have to worry about with cellulitis is that it can now start moving into the lymphatic system. Now we've got big problems.

And it will spread throughout the body and into a septicemia if it's not controlled. So again, get them out of there. Get your antibiotics for it, and take care of them.

Other things that are going to come about, and this is going to be with war with hockey, football, rugby, things like this, where you're going to have material that's going to be rubbing against it. The first introductory slide, there is a judo tournament that took place here in Minnesota. Those games whether it's judo, karate, mixed martial arts, what have you, those [INAUDIBLE] tend to rub and are going to be irritating the skin. You irritate the skin, break off a hair follicle, now you can develop a folliculitis.

As that folliculitis grows and spreads to surrounding follicles, hair follicles, now you're going to end up with a carbuncle. So you've got a collusion of follicles that are all infected. Again, staph, folliculitis, you catch it early? Very quick, hot compresses. Get those things to rupture, clean them out.

Topical antibiotics will work. Again, for safety's sake, so that you're not responsible, have the parents give the kid a topical antibiotic prescription. Use your silver washes and your herbal washes that you're familiar with. Get clean air, but then put the prescription over the top.

Carbuncles, these are going to be much deeper. So these are going to be right down into the hair follicle itself. So they'll get down into the dermis. These carbuncles can get down into the hypodermis down into the fatty tissue. They're much deeper. They're going to take much more heat, longer time to get them cleaned out.

These, in some cases, depending on the size, you may also want to have your oral antibiotics as well. Do whatever you can to get these things cleared off as fast as you can. So this is where I would recommend blending both your antibiotics plus your anti-microbial stuff, our herbals, our silver, and all the things that we can use. And they help clear off pretty quickly.

Erythasma, this is a corynebacterium, again, bacterial infection. It's deep in the skin. It does affect the melanocytes. And this is why you get that browning color to it. So it's an irritation down into the dermis and into the melanocytes, which is going to give us the color.

It spreads. This is one of those that bacteria that likes to get into those nice warm folds, grows, develops. And the other thing with this is you end up with a little bit of a odor from it as well. Woods lamp-- those of you who are going to be using, doing and looking at skin, Woods lamp is a nice easy tool to use. Get it into a dark room. All it is is dark light, black light. It will help to identify some of your fungal infections and your different bacterial infections, your [INAUDIBLE] and a couple of other things. That lamp there, you can pick it up off of Amazon for about \$35.

Looking at some of the things, you may need to get out a magnifying glass. A 10 power little magnifying glass-- you can pick these up on Amazon for about \$3. But it does help you look at things and see what's going on with the skin. Those are a couple of tools that will be very, very handy.

Now hidradenitis suppurativa, again, this has to do with the sweat glands, apocrine glands or the sweat glands that are all over our body. The apocrine glands are the ones that are typically in the axillae down in the genital area. And these are deep. These will actually have tails that will also go down into the subcutaneous and down into the hypodermis, down into the fatty tissue. When these things get infected they get a very deep boring pain with it, a very deep infection.

These can many times will actually form an abscess which will have to be sliced in order to be drained. And then, because if you get a nice deep abscess, those things need to be packed so they can heal from the inside out, whereas you could just slice it and you get a deep infection. It's all over the body. You get a little cavity, heals from the top you're going to end up with a sterile or another abscess packed as well. So things are much more difficult.

This one response pretty well to antibiotics, both oral and topical. You can clear this off relatively quickly. These are going to take much longer, because you've got to heal that abscess from the inside out. So these, it might take a couple of weeks before they can get back in.

The best thing is to monitor this and monitor the kids that have a susceptibility to developing these type of abscesses. Keep them clean. Prevent it from happening. So again, use your different types of silver washes, herbal washes, the [INAUDIBLE] and other things that over-the-counter that you can get as well. You want to prevent these from getting developed, because if this is one of your top wrestlers or a top lineman, he's done until you get those infections cleared.

So monitor, prevent it from developing up. And these tend to be run more in the family. So there tends to be a genetic component to it as well. So dad had it, mom had it. Start thinking about it [INAUDIBLE] through as well, and we'll monitor them.

Typically, one of the big things that they have problems with is the body odor that's associated with them. They do get pretty stinky. And these kids are going to be real self-conscious about it. And what they're going to try to do is cover up and hide it. And as the coach, you talk with parents, find out what's going on.