

FICS ICSC Emergency Procedures

Facilitator: Really excited about today getting started and going through a little more of the details of what we are going to be covering in the live session. When you come to the live session please remember that is a completely hands-on weekend. So, we want you to dress appropriately so that we can get to the extremities. Short sleeve shirts and shorts, or something to change in soon that is appropriate. Today we have a nice day for you with lots of instructors and I was kind of doing some review of our instructors for these hands-on modules. Today, over this weekend, we have five different countries represented as our instructors which is kind of really cool for you to see that we get a global approach to your education with FICS. Which is kind of what it is all about as we send you out to cover athletic events. There will be a myriad of athletes from different regions expecting different types of care that is appropriate for their region. So the education is really appropriate for that type of kind of specialty as a sports chiropractor.

We have the distinct pleasure today to begin our sessions with emergency procedures and we have two really super qualified, presenters today which I am super excited about. First, I wanted to introduce, Trish Donoghue. Trish, as you might have talked to her on a number of occasions if you have ever logged into the fixed website or sent an email to FICS, she is our sports admin, marketing, and finance manager, and just everything go-to person. She really is kind of the cogs in all the wheels behind FICS. But she has this secret talent that she has been hiding for a long period of time, which we are exposing today. She is a level 1 world rugby instructor, and a level 2 sports trainer, sports medicine from Sports Medicine, Australia. She has been an invited speaker on these topics on a number of occasions. So really, really happy Trish to bring you up as an instructor for FICS and help us educate our sports chiro's. We know now that a lot of venues are not allowing sports chiro's to cover events unless they have emergency procedures training, so this is critical training as far as your ICSC certification goes.

Secondly, we are also very lucky to have Dr. Natalie Sharp with us today. Both from Australia, which is really nice. You guys are bringing it strongly from down under for us, on the East Coast. I am down at the Jersey Shore this weekend, so totally opposite of you guys climate-wise and everything. But Dr. Sharp is a has been a medical director for FIVB World Tour and also a huge integral role in that organization as well where she provides services as a consultant and medical staff. She has also been a consultant for volleyball Australia. She has nine years of experience with elite international volleyball. So I really am happy to have this expertise, as the level of expertise with us today, and insight on emergency procedures and handling injuries on the field.

Just a little bit of housekeeping, we will have three lectures this morning: the emergency procedures, the soft tissue techniques, and then the taping, and then we will have a break. So

just follow along with your- schedule that was sent to you via email. If there are any additional notes, you can just ask questions in the chatbox, and will lead you the rest of the way. Thank you so much for joining us today.

Trish Donoghue: Thank you. So this lecture is creating a baseline of knowledge for fixed sports chiro practice, and it is allowing our international basis members to understand the various approaches to emergency procedures. Many of you may already be across a lot of this information we are presenting in this module. However, what we want to do is make sure we have got everybody who is going to be working at international events to have a level of standard that is common for everybody. Having your first aid certification is required to gain your ICSC, and this will need to be current at the time you submit your evidence for verification.

In the upper extremity, in the lower extremity assessment later today, the instructors will cover a range of evaluations for some of these techniques we'll be covering, from the fractures and the dislocation. So Nat and I today are going to focus our talk more on the side of the field and the first responder.

We are going to discuss what a first responder is, and especially at the sporting level, and some of the things that we can do to manage and take control of the environment around us. Now, within your clinics, you have a nice quiet room and you can control your environment where you can discuss the athletes' needs and provide the treatment. Well, as you can imagine in the sporting set in at the sidelines, there are multiple things buying for your attention and multiple things happening at any one time. You can not just concentrate on the athlete alone, and, expect to have the athlete full attention. So some of the things we will cover today are some of the concepts that we will use if you find yourself on the side of the field as a first responder and look at some of the techniques as a secondary assessment.

We encourage you to post your comments in the question box as we go along and both Nat and I will be monitoring that, and we will be glad to answer them. When we get to the spinal injury management section, we will be looking at this from the theory side, and some of the red flags and considerations you need to take into account when making that assessment. When you are at the face-to-face session, you will be doing a lot of these practical skills. So this is just ticking off on some of the baseline theory first. We will finish with some of the scenarios, which we will ask you to comment on, and we'll leave you with some self-reflection to think about between now, and the face-to-face sessions.

Accidents happen, as we know, and it is really, really important to know your role at the event. We provide the highest level of care to athletes within a multidisciplinary team and there are different levels there. So when you are working with a team at the local or national level, you may be the medical personnel allocated to that team. And sometimes, you may be the only

person at that event. So in that case, you will most likely be the first responder. When you are working with a team full time, you will get to know your athletes. But if you are helping out with the team, you may not know the athletes. So you have got to have different levels of approach to how you are going to be that first responder and how you are going to evaluate what the injuries are. At the international level and the international events, when you are part of the FICS sports chiropractic team, you are mainly working in the polyclinics so predominantly you are working in the warm-up areas and you are not on the side of the field.

So, it is important when you are starting with a new team, whether this be at the local or the international level, you need to really understand your role and what that role is within the team. Keep yourself up to date with the latest protocols, and keep your knowledge continually. Continue to challenge your knowledge and really talk with the other professionals and the other sportspeople there as well as the athletes, to get to know and expose yourself to different injuries because this is where your experience comes about. In your universities, this is where you get all your knowledge, but when you get onto the side of the field and you are working with different sports, and you expose yourself to different sports, it is really wonderful to see how your experience grows. And you can really challenge that knowledge and how you would care for the athlete.

Dr. Natalie Sharp: Okay, so this is where I am going to jump in. Good morning, everyone. Let us start this morning actually, with having a bit of discussion in the comments box. What do you think the differences are going to be if you are working, for example at a local event compared to an international event and we will take like any examples. But what are the differences going to be? One comment, the level of competition experience, absolutely. The other thing we are going to think about as well is the resources that are going to be available for us. Chances are, and you know, this is again a generalization at an international event potentially, you are going to have, more budget behind you, more time, more resources. A local event, you have a smaller budget, and need to cover some of your own expenses. (having to provide tape equipment and other consumables). The other thing to consider potentially with an international event is sponsorship. So, you may need to use specific products, as opposed to a local event where you might be able to use the material that you are a little bit more familiar with. Can anyone think of any examples of how a junior versus senior event may differ? Sort of considerations you may need to make, just differences in the event itself.

Trish: And think about the size of your medical team as well, and the different expertise that you will have.

Natalie: The big event that I see the big difference between is a junior and a senior event is, potentially junior events you are going to have to get parental consent. Explain to parents what your role is going to be, what skill set you have and how that is going to be applied. A senior event

chances are your athletes are going to be adults or in that sort of adult age range, so we are not so much going to have to deal with outside influences. It is going to be with the athletes themselves, so similar conversations but being able to have that with the athlete itself.

The other thing is when you are working at these events, you gotta make sure that you are part of the team and part of that team is making sure that you are on top of the things that you need to know. Trish touched on this just a moment ago, but making sure that if a sport has specific policies, for example, your heat policy especially if it is an outside sport, concussion policy, who is not and who is allowed to return to play, and spinal policies in terms of, what is going to happen if there is a potential spinal injury. Those are the type of things you need to be on top of before you get to the event.

Another really good resource that is handy to find, is a lot of the consensus statements. These consensus statements usually BJSM (British Journal of Sports Medicine) is usually a really handy place to look up these consensus statements. There are consensus statements on everything. So if you make sure that you have a read of the ones that are applicable to your sport and your event, you will be going into your event a lot better equipped to deal with different scenarios.

Understanding your athletes' limits and where they are at, in terms of either their recovery or, what is just happened with an acute injury is super, super important. Clearances and return to play again are going to be potential things that are either going to be in a consensus statement or in a sports policy of their own. Making sure that if possible, you are aware of any injuries that are coming into events, that way, you can be better prepared or being on top of these consensus statements that make policies so that if an event does happen, if an injury does happen, that your best equipped to deal with it. The other thing to keep in mind is different medical conditions and different medications are going to affect how people react to an injury. There is a bit of weak evidence out there that the NSAID, so the non...Nonsteroidal anti-inflammatory drugs can actually delay wound tissue and wound healing. So, if there is an athlete who has been on these potentially that is going to slow down their wound healing and may delay their ability to return to play.

The main theory is keeping everything as simple as possible, which is why protocols and consensus statements, and national sporting organizations policies are there in the first place. It is so that everybody's on the same page, everybody knows the steps to recovery, everybody knows the steps after an event has happened. That way it is easy to follow, no one needs to come in and try, create something new or alter something drastically that is already there, everyone is working off the same page. So even if it is a team, you have only met a day or two before you can all be on the same page and know how to deal with the incident together.

Trish: Use the expertise of the sport as part of their medical team. So when you go in, make sure that you are willing to listen and you do not come in and try to take over because that will actually build rapport as well.

Look at some of the critical information that you may need to know. Just reflect for a minute, you are asked to cover a local event. What are some of the things you need if you are asked to be on the sideline of an event? What would be some of the critical pieces of information that you think you would need to know when at that event? Now, this is really, really important to do your planning prior to the event because when you are in this situation, you need to know how to act and you need to know how to act quickly.

So just to start us off a couple of things that I do and that I need to know, and I make sure I have got that information and do my own checking is, what is the nearest hospital, especially if it is ground or a venue that I am not familiar with. If you are the first responder and you are looking after more than just that team, I do a lot of work for events where I am looking after multiple teams, and multiple people will come to me at the first aid medical tents. So, I need to know where that nearest hospital is and I usually have that written down on a piece of paper. So that if a parent comes to me, I can give them the address, they can put it in their phone, and they can find the nearest hospital.

Looking at your triage. If you are calling emergency services knowing and doing a quick triage, working out how many injuries you are dealing with, what are the type of injuries, so that you are making an assessment. When your phoning the emergency services, you have got that information.

The person in charge of the event. Now, this is something that a lot of people, I have found in my experience do not think of asking, who is that person in charge? When you get to that venue, what do you need to do. I have been dealing with Medical Teams and putting Medical Teams at events for nearly twenty years, and the first thing I drill into people when I allocate them to teams is get to the venue early, work out where you need to be, make sure everybody knows where you are, and that you have actually meet the person who is in charge. Now, it might seem strange, and you are thinking well why would I need to know that? This is an important one because they are the person that you need to coordinate with if you need to call emergency services to an event for any particular reason. So you need to know the location of where you are, and you also need to know where the ambulance access is. So it is great knowing where you are, but can the ambulance get into the venue? How do they get into the venue? Where is the medical tent in association with how they get into the venue?

And a very big one here which I would like to point out is keys to the gate. And this is another one that a lot of people overlook. A lot of these sporting fields have access points, but they are

locked. So who has got the key to the gate and are they at that venue? Because it is great to know who has the key, but if they are not at that venue, everybody is running around trying to unlock that gate and when you have an emergency situation, you can not get that ambulance in. So, it is asking some of these questions before you get to the venue. But it is then when you are there, making sure the person that has got the keys is not sick on the day and somebody at that ground or at that venue knows exactly what you need and are doing. These are all prior planning and it is usually a really good idea to sort of do your own. I do not take it for granted when I am going to an event that I do not know, that someone has passed that information on for me. I like to find out that information for myself because I have been caught by just taking the word of other people.

So, post-game, you need to think about your debriefing. This is really important to know who that contact person is at the event as well because if there was an ambulance situation, they will most likely need a report that you will have to write up and the venue will most likely want a copy of that. You need to think about all of these things so that on the day you are not running around, you know what you need to do, you can direct people around you, and you can make sure that others know what they're doing as well.

So one of the useful tips that I usually find is having all the necessary contact details on my phone. If time permits, I have a series of questions that I will ask people when I introduce myself and I will outline my role and the services that I am going to provide. So upfront, my expectations are clear of what my role is at the event and their expectations of me are clear as well. This is really important, it takes a few minutes to do, but it is actually can save a lot of headaches when you are in a situation where you need things done.

This is a high-profile cycling event. This was an elite event, it was a road race and we had an experienced medical team stationed at the start/finish line. The event did not cater for many medical stations around the course. We had a cyclist that came down the hill and he degloved his face. The next cyclist ended up being a paraplegic. By the time we got to that scene, the injury had already been post ten minutes. We had to make a quick decision as to what was going on because we had multiple cyclists coming down the hill and there was no one stationed at the top of the hill to stop them. So the first thing we had to think of it was danger, danger to stopping the other cyclists coming down that hill — before we could even draw our attention to working out what was going on with the athletes that were down. It was only two of us that made it there, to start with. I was not one of those people, I was the one back at the base and the radios were not working because they were in the middle of the bush. So, there were multiple things for this event that could have been done better. And that was obviously part of our debrief when we all had to sit down after the event. The unfortunate thing with this situation was one of the athletes died, and so that ended up going on to coroner's inquests. And because of that, our records and what we recorded became, very, very important.

When you are dealing with these sort of situations, you also need to realize that adrenaline will take over. It is really important that after these events that you take the time for yourself to check in on your other colleagues, but also check in on yourself and give yourself a little bit of care, and make sure that you are doing okay. Because you can be the most experienced person in the world, but when you are confronted with things like this, they affect us in different ways. So, always be aware of that and always take time out if you do find that.

What does it look like when you are actually on the sidelines? Now, I have had lots of experience with this both as a sole provider and also as part of a team, and when you are, I noticed in the comment box that few people predominantly are working with combat sports, and some of the football codes, there are multiple things going on at any one time. So when you are on the sideline and you are the first person to run onto the field, you need to be watching the players. When you are watching the players, that means you are watching the players that have taken the fall but you are also watching ahead of the field as well because a lot of these games do not stop. They do not stop the minute someone goes down, so the ball is already gone well ahead of where the player is still down on the ground. If you are running onto the field of play and that game is still going, you need to be super aware of your environment and what is going on around you. Because you are running into the field of play, and especially if you see blood, you need to be thinking about infection control. So you need to be having those gloves in your pocket at all time and getting your gloves on.

The technique we use when we run onto the field and uses a triage is the S.T.O.P. technique, and it is a really effective technique to make that first assessment. the first assessment is all about, is that player able to continue to play or do they need to come off the field? It is a simple as that. The on-field assessment is, can they play on, or do they need to come off for further assessment? we will watch this first video and this is part of the mechanism of watching what has happened. You are watching what the players are doing. Because, as you can see in this first video, you are already making the assessment of what you think the injury is before you get there. When you see a player go down, you can see his helmet has hit the turf, and he is really, really stiff. So straight away in my head, I am thinking spinal, I am not mucking around, by the time I get there and you have got any red flags of spinal, you are stopping that game. You need to actually take your time to make that further assessment. And you can see here...I am just going to play that again, but you can see here as he goes down his body's stiff, but his hands are shaking. So, that is some really serious red flags going on there. You need to get that umpire to stop the game and you need to stop anyone from pulling him up. I have been there on the field where I have had colleagues trying to pull a player up and you have to actually get them to stop. You can not get them to do it.

In this second video, we have got a player that is pulling away from us and is trying to argue with the umpire. He is very disorientated. He needs to come off. He needs to get a proper sideline assessment. So, this is where you need to gently stay with them. You need to encourage them, "come off for a few minutes, let us do the assessment, and then we can get you back on." When you are dealing with the players, a lot of the players will be thinking that they do not want to let their teammates down. They do not want to come off because they're...afraid that they won't get back on. So an elite...at the elite level, players have a commitment to their sport in their teammates and there is always that feeling that if they leave the court that has sometimes lean them down. So you have got to encourage them, "look, I am not trying to sideline you. Just come off with me. Let's get a quick assessment on the sideline and let us see if we can get you right."

Natalie: TOTAPS is the acronym of what we are going to speak about now, is a really nice assessment tool to work through, either on the field if you have got something like a knee injury or an ankle injury where the athlete can not get off the field just yet, or something that you can do off the field to assess whether or not this athlete can continue to play. So, as we are working through the different stages of this assessment, keep in mind that if you are getting difficulty or pain at any of these stages, you are going to stop. You do not need to go any further. so, I will put this into context straight away because it is something that I went through a little while ago, at one of the beach volleyball events that I was working at.

There is a picture up in the top corner of what we did. One of the athletes, who turns out to be also one of my good friends, jumped up to block, landed slightly awkwardly, and just fell over. So that is all we saw. We did not really see anything, hugely dramatic, nothing. You know, no big sort of collision or anything like that but essentially when she did not get up, we knew there was a problem. So we basically went out onto the court, once we knew that it was our turn, our role to enter the into the court. The first thing we did, we sat down and we said, "Nikki, what is going on? What has happened?" And we knew something was serious but we wanted to hear from her what it was. Essentially, all we got from her was, "my knee." So at least we know where we are aiming for.

The talk section is that there has been a big collision or more of a traumatic injury. It also gives you a nice easy way to start gauging the athlete's cognition. So basically, has there been a concussion? Are they alert? Do they know what is going on? the next thing you are going to do, is observing one knee compared to the other. At that point there was no obvious deformity, did not look like there was a broken bone, there was no blood or anything like that. So we start very, very gently. "okay Nikki what we are going to do is we are going to start feeling around your knee, let me know if anything is sore if anything is painful." Obviously, you do not go in there, poking around really, really hard because you know you are going to get hit. What you should be doing is to start very, very light touch just to observe where is the pain.

Next thing is you are going to start by asking them, to do some very, very, low active movement. Can you move this at all? So what we asked Nikki, "can you bend and straighten your knee at all?" She could a little bit, it did cause her a little bit of pain but we could get a little bit of movement in there. So essentially we did not then move on to the passive range where we would take the joint through a bigger range or start to do any orthopedic tests to test for ligamentous injury or, anything like that.

The last thing, we did not get to it with Nikki due to her injuries, however, the last thing that you are going to do with an athlete if all of this so far has come back pain-free, is some sort of skills test. To reiterate all of this come back as pain-free and negative we would have moved onto skills test, "okay, we are going to get you standing. Once you are standing, can you walk? Can you run? Can you change directions? And lastly, can you jump?" Obviously, these skills are going to be different for every sport that you are going to do, but that is what we would have done in this situation. But because of Nikki injuries we couldn't get past the active stage, all we could do essentially is get her off the court, do a further assessment in our medical tent, and get her off to a hospital.

In a lot of these situations, there is not going to be much that you can do in terms of treating the injury. What you need to do is essentially make sure that there is no further injury to the player, no further danger to the player or players around, and get them off for medical referral imaging, anything like that. So essentially all we could do in Nikki's case was try and get her off the court. Get her in a nice, calm environment, and essentially trying, for the most part, take her mind off a little bit of what was going on. She knew it was serious and she was an athlete who was aiming for Rio. This event happened, a few years before Rio, and I guess luckily for her it happened very early in the cycle so she could recover. She ended up having surgery on her knee. So she could have surgery on her knee, do a little rehabilitation, and she then qualified for Rio, which was pretty cool.

I do not know if you guys have seen this going around, it was an infographic, a few months to a year ago, I think circulating. Previously we were using RICER — so rest, ice, compression, elevation, and referral. This one has come out recently, which is kind of cool. It is a bit of a twist on that and it is essentially how we are going to manage these injuries in the initial phase. So, say for example someone hurts himself in an event. We may do sort of the PEACE component of this straight away and educate them on the LOVE section to do in the next couple of days. When we are talking about the P section, we are talking about protection. So we want to unload or restrict the movement for 1 to 3 days to help minimize the bleeding, and to a certain extent limit the inflammation. We do not want to stop it, but we want to limit it. We are going to elevate to promote fluid flow out of the tissues and to slow the rate of swelling. So, once again, we are not hugely afraid of there being a little bit of swelling, a little bit of inflammation, we just want to limit it.

We are going to try and avoid anti-inflammatories for the first couple of days, if possible. We want that bit of inflammation because it is going to help promote tissue healing. Especially if we have a lot of anti-inflammatories and it is a high dosage, we are limiting the tissue healing that can continue. We need to compress the area. So either with different types of taping, which you will go through, or have gone through in part of these webinars. 'Because what we want to do is reduce the swelling and bleeding into the joint. Then we want to educate the athlete or the person in terms of what this injury is, what they can come to expect in terms of its healing.

So after the first two to three days, we start to move into this LOVE section. That is where we want to start loading the injury, and again not loading as in you know, going back to full activity, but it may just be walking up and down the corridor, doing a few light half squats. Something like that is going to start putting a little bit of pressure in through that joint, in through that injured area, if possible to help blood flow around. So, to start to flush some of that inflammation out. We want to try and keep them optimistic about the injury, and just tell them that, "this is going to heal. It may take a little while, but you know, you will get better, you will be able to play again."

When we are talking about vascularization, that is some light aerobic exercise. So what that is going to do is to start just bringing the blood flow back to the area, but not only bringing it back but start to help it flush out again as well. Then starting to build up that exercise, restoring mobility, restoring strength, and some body awareness after the injury.

Trish: We are going to discuss a little bit about fractures and splinting in this topic. But we are not going to go into that in great depth because in the upper extremity and in the lower extremity later today, we will look at some of the tests, some of the other lecturers will look at some of the test methods for these. This is more about that first responders' section and when you are at the hands-on seminar, you will be doing some basic splinting as well.

Dislocations and subluxations. The main thing here is understanding what your role is, and understanding that, if a dislocation does not go in, smoothly, then it needs to be referred and making sure that any dislocation is treated appropriately. Making sure your understanding of your scope of practice is solid. In some areas you have got the ability to diagnose and may be able to examine these injuries and reduce a dislocation. But if you have not got that training, make sure you get the experience before you start, manipulating a dislocated joint.

Your athlete is going to have pain and tenderness or swelling, and usually, it is going to be really, really obvious. We all know from a dislocation, the athlete is going to be in a lot of pain and the longer a dislocation's out, the harder it becomes to go in cleanly. They need to get to the hospital to get that looked at.

This is an example of a local level Gridiron game in America, they call it American football. I was the first aider for one team. The other team had their own first aider and I was the first responder at this event. The play went down and it was for the other team. So half the time, if you are a first responder for a particular team, you can not just take over. You have got to be very mindful of that. So I ran on and just stood back and was observing. The game had stopped, but the first aider for the other team was, what appeared to be out of her depth. She was not quite sure about what she was doing and it was just a gentle comment from myself. I said, "would you like help?" And she jumped at this opportunity. The player was in his late 20's. He had a full-on dislocation. He was in a lot of pain, he could hardly move, he was screaming in pain, and the joint was, I could get my whole fist in the actual joint there. So I said to the girl, we got him up, "you need to go straight to the hospital, and get that seen to." The girl said to me, "look, we have a chiropractic grad on our sideline." I said to her at that time I looked at the athlete, do not let anyone touch that, you need to go to the hospital. That was my advice for him. That newly grad chiropractor manipulated that joint on the sideline...No joking for a good half a minute, this poor athlete was screaming. I think the whole ground heard the screams. He went on to the hospital, he had multiple fractures in the joint. He had to go on to surgery to get that repaired.

So, the main thing here is you need to take responsibility for your own treatments and examinations and have a thorough understanding of that. You may well have that training on how to reduce the dislocation. However, if you do not, the main thing especially on the sideline is that recognize, remove, and refer. A dislocation that has not gone in under normal circumstances and under simple evaluation, you should not be forcing that dislocation and continue to do that. When you are approaching the fractures on the field, the main thing here is treating the athlete first and because there is not a lot you can do on that field, you have got to get them to the sideline. So as we mentioned before, if they are screaming in pain, they have an effective airway. The main thing that I am going to do is I am going to get down on the same level as them. I am going to talk to that athlete. I am going to reassure that athlete, and the first technique that I use is my superpower that I try to pass on to all my athletes is breathe, and I will breathe with them. It is amazing the correlation between breathing and pain. I am sure a lot of you understand this, but if you can control somebody's breathing, you can control their pain and that is the very first step in approaching an athlete that is in pain. It is getting them to take those deep breaths, control their breathing in, and getting them to be able to talk to you. That is where you are going to find out a lot of the mechanism of what is going on.

I got taught this by one of the sports doctors very early — manage the athlete first, the injury second. It is a very simple concept because the injury has already happened. You need to manage the athlete's pain level, then you can manage the injury itself.

As we are getting to fractures, we all know that closed fractures are the ones which we are going to get diagnosed with an x-ray. But there are many things that you can do to work out whether

it is a fracture or not. Most people with the closed fractures are going to have that pain, that bruising and in some cases the swelling, and they are going to have other symptoms there that you can look at further in some of the later presentations that we get to later today.

The athletes not going to be able to stand that ice, so what we usually do is put that ice above or below the injury, because you wanted to control that swelling and keep that swelling down as much as possible.

When you are looking at the open fractures, your main thing here is that blood control and keeping the wound as clean as you possibly. So, it is trying to get them into a stage where they are calm, you can control their breathing, and try to get it so that they are not looking at the actual fracture because this will only increase their anxiety. So, with this, we have infection control to consider. We are going to make sure we have got our gloves on. We are going to treat the wound and cover it. We are going to get this person off to the hospital straight away.

With our complicated fractures same thing, we are going to manage the pain. We are going to manage that athlete's anxiety, because straight away this picture here, is an elite athlete. His first thoughts are, "I am not going to be able to play again. How long am I going to be out for?" I have been at a lot of cycling events where usually with cycling events, it is a triage of people going down like a domino effect. They are more worried about their bikes than they are about themselves. So sometimes you have just got to reassure them. You cannot promise them that everything will be okay because that is not within your power. But you can promise them that, you will help them. Control your breathing, we will get you to the sideline. We are going to get you help and get you back on the track as soon as we possibly can.

Natalie: Okay, so we all know what a stress fracture is and an overuse fracture. We are not going to go over that. Let us just have a bit of a think, jump in on the chat box if you want. what are the ways that you would talk to a coach talk to a parent about, if you have a suspicion of a stress fracture, what comes next? How would you approach that? Any ideas? Let me open my chat.

Trish: Think about your elite athlete who get a stress fraction and they are training for the Olympics, how are you going to approach an elite athlete or a parent? Especially if the athlete's under 18?

Natalie: I will just go through an example that I had. It is volleyball because that is my background and where I have come from. We were about to leave, I think it was about four or five days before we were due to head off for Asian championships, and this was the Asian men's championships. It was the first time I had worked with the men's team, and the first time I have worked with the men's team coach, who had quite a reputation of being stubborn. I had been told many times about him, but I guess had not had the first-hand experience until this point. While I was touring

with the team, the team was also being managed by a physio who work with the Australian Institute of Sport. I was essentially getting a handover from them, and I got a call from the coach of this team. "Hey, Nat, I need you to come to training tonight. I need your opinion on something." I am like, "oh ok, here we go."

So, turned up to the training session and he runs me through the injury. You know one of the athletes has this hip pain, the physios think it is a stress fracture. What do you think? This was a very loaded question. I do not think he wanted to know what I thought, I think he wanted to tell me that, he wanted me to tell him that I thought the physios were wrong. Unfortunately, I did not think the physios were wrong. I did an examination on this athlete. I had a chat about what was going on, when do you feel the pain, all this type of questions. Unfortunately, I agreed with the physios in that we thought there was potentially a stress fracture within the femoral neck and as you all know, that is not an injury that you want to muck around with. So, went back to this coach. I said, " You know, I am pretty sure the physios are right." which basically meant that four days - five days before they were due to leave for this big tournament he was going to have to find a new player. Well he was not happy.

He was like, "no, no, he can play, he can play. You know, look at him, he can walk, he is fine. How does he have a fracture in his hip? He can walk." I basically had to sit him down and explain to him that yes with a stress fracture, he may be able to walk, but as you all know, if we were to push this and it was to then develop, this guy who was 20 years old male, would be left with this injury that would potentially cause him to need a new hip at a very, very young age. That was a difficult conversation to have because the men's team was a team that I aspired to work to for quite a while and I am like this is not going well. If I am disagreeing with the coach before we even leave it is going to be a long three weeks, but we got there.

Trish: Ivan makes a really good point in the chat box, using some diagrams and sometimes scales to actually help people understand. But just also remember, sometimes those coaches, do not want to hear it. Because if it is their star athlete, they are more likely to say to you "get them better and wanted you to clear them to play" so you have to be very, very careful of that.

Natalie: You are going to go through some of this assessment later when you looking at the upper extremity section. Wrist fractures or scaphoid fractures. Super, super common, you are going to have the pain in that anatomical snuff box, keeping in mind that while that pain there is quite sensitive to escape void fraction, it is not very specific. So just keeping that in mind as well with the scaphoid fractures. They may not show up straight away on x-ray. So, if that is something that you, a parent of the athlete is concerned about, "I have got this pain went for an x-ray, nothing showed up." tell them to go back about two weeks later and get it checked again because sometimes it takes that little bit longer for them to show up. A lot of these wrist fractures are going to come about from that sort of falling on the outstretched hand.

Trish has spoken about splints in the earlier part of the fracture section here and yes we are going to run through some of the splints in the hands-on session but keep in mind that your splints do not necessarily always need to be pre-made ones that you can see in the middle with the padding especially in an emergency situation. You can just use, a rolled-up magazine for a forearm or a paddle pop stick for your finger. Just something that is going to immobilize that, joint, immobilize that limb, immobilize that area until you can get them off to get an x-ray essentially.

So when we are talking about rib fractures, very common. It is either going to be direct contact with a person. They are going to get hit by something or, even a very strong muscular contraction can cause a rib fracture. They are going to have difficulty breathing, they are going to have, like a pinpoint pain in around that chest area, potentially depending on how severe it is. They can be getting some signs of cyanosis, so turning blue, mottled skin. basically what you are going to do is you are going to lay them in a half-sitting position. Something that is, something that is going to be nice and comfortable until you can get them off. Then get that x-rayed, and basically, see what comes next.

Trish: In a simple exercise with a rib fracture, an athlete will not be able to hold their breath. So if you ask them to take a deep breath and hold it, they will not like it.

Natalie: Flail chest is very serious. You have got a whole bunch of different ribs that are broken in the same area and then you then have this area that sort of loose and frill. You got to excuse my Australian phrase here but flapping in the breeze like it is just going to be hanging out there, separate to everything else. This is very, very serious. This is straight to the hospital.

Pelvic injuries. They are going to come about from something fairly significant. If you do suspect a pelvic injury, make sure that you are keeping their clothes on because that is going to help stabilize the area a little bit, help to immobilize it. Chances are these people are not going to be able to weight bear anymore. Again with that immobilization, you want to essentially tie their ankles and feet together just to help hold everything nice and tight. Until you can get them to the hospital, get everything x-rayed, further investigate, and see what comes next.

Trish: With these ones just remember it is probably better to concentrate on controlling their breathing, lying down and talking to your athlete, keeping them calm and getting that ambulance. This is all you can do, you do not want to be trying to put some of these people into a motor vehicle to transport to the hospital. It is better to call that ambulance.

Natalie: When we are talking about the head injuries, safe to just assume that there is going to be a concussion present. But, before you worry about anything concussion-related, you have to look at the things that are going to be more life-threatening. We want to look at skull fractures

and if there is bleeding, if they are still conscious at all. Then, the serious consideration is whether there going to be any brain damage here. Essentially when they have been cleared from the hospital of all these more life-threatening, very serious, immediate injuries, then you can start looking at concussion which is covered in a whole different section.

When we are talking about skull fractures, we are talking about the head wound. Similarly to when we had the open fractures, the first thing is worrying about is infection. So making sure that you can keep the area as clean as possible and making sure that you are approaching the athlete with your gloves on. Not only do we need to protect the athlete, but you also need to protect yourself as well. So, making sure you got nice, sterile, gloves, gauze, clean cloth, wrap it all up and, send them off to the hospital. If it is something relatively minor, potentially in a car as Trish said, otherwise, just call the ambulance as they have everything there that is going to be needed to manage that athlete condition until they can get them to the hospital.

Trish: If an athlete starts vomiting from a skull fracture, that is quite serious. That is something that you really need to get the ambulance immediately. When you are looking at that neck or spinal injury, especially from our video early on that we showed you, think of what you need to consider? If you have run out onto the field, and you suspect a spinal injury, and have an athlete which is conscious and able to talk to you, first thing is making sure that there is no one around that athlete, like some of the co-players, that are going to try to pull them up. It is just getting them to stop for a minute. Take that moment, make that assessment, keeping the athlete calm, and managing everything else around you.

I found myself in a situation at, a school sports event where this young boy, I think it was the under-18s, but his mother beat me onto the field and she was kneeling over her son at the head, yelling at him, "Are you okay? Are you okay? Talk to me, talk to me." And the minute I got out there, the first thing I had to do was address the mother. I had to get someone to look after her because I could not do anything until I took care of her. There is no rush here. If you suspect a spinal injury, it has already occurred. So your first priority is for an athlete that is conscious is to stop that game. Just the game stopped. Take your time, make sure you are not pressured by the coaches and umpires to hurry up. If you have got red flags and you do not think that it is going well and you need more time, then the game waits. There is no rush here. So once you have talked to them and if you have cleared them from some of these red flags that we are going to go through in the face to face, you are going to roll them onto their side, and then we are going to sit them up and we are going to keep them in that sitting position for a few seconds to make sure they are not dizzy, make sure that they know what their surroundings are. We will then stand them up. We will go through the same procedure again. We will make sure they are not dizzy. They are not going to throw up. They are not feeling sick and then we will walk them off. Anyone that has had a suspected spinal injury on the field, needs to come off for an assessment. They need to be cleared on that sideline before they can continue to play.

So management of the neck, you stay calm. You do not rush, and you take control. I am not sure if a lot of people are familiar with that manual, in-line immobilization support. But that is something that we really are going to practice in that face-to-face session and it is really, really effective.

So this technique is quite simple. You have got the most experienced person will be at the head, they are the one that is also giving the direction. Whoever is at the head, is in charge. If you have got multiple people who are experienced, your most experienced person would be the one that is delegating and overseeing the whole scene and you would put somebody else, who is second most experienced at that head. The person who goes at the head stays at the head until that athlete is cleared. Now, you could be supporting an athlete there for ten to fifteen minutes or even longer until the ambulance arrives. So, it is making sure that you are comfortable, making sure that you are calm. You are in control, you have got the athlete's confidence at all times, and we do that by talking to the athlete quietly and making sure that the surrounding and everything around us is calm, as well.

In this women's rugby sevens example, we had a player who stumbled off to the sidelines, and she was walking to the medical staff tent, and she collapsed. She was complaining about tingling in her neck and down her arms. She fell onto the ground, and I was the one who was at the head, managing the head while the sports doctor was managing the scene. The athlete started shaking quite vigorously. So, the first thing we had to do was manage, her temperature control. She was on the cold sporting ground, and as you may appreciate, we needed to get a layer between her and the ground. So, it is getting a blanket or getting something underneath her so that she is not absorbing that coldness of the ground. It was in the middle of winter, and we needed to get the silver recovery blankets over her.

Trish: We had the dad on the tent, and so one of the things we really needed to do was say "Hi Dad any chance that you could step outside and, wait outside?" Because the problem I had was the dad was at the door of the tent, and every time he tried to talk to her, she tried to move her head to talk to him or see him. It was about asking dad to wait outside, and we will keep him up to date and managing that players shock. I tried to keep her breathing, she was shaking quite vigorously, and once we got the silver blanket over her and that barrier and controlled her breathing, we settled her whole system down. She settled down beautifully and we were able to prevent shock from setting in. If you do not address shock, you will have a situation where the shock will continue to develop, and the athlete will deteriorate rapidly. The ambulance took about ten to fifteen minutes to get there. By the time they got there, we were able to make her comfortable and they were able to take over. When you get to that athlete, you are going to manage the dangers and make them comfortable. One of the dangers was, managing the surrounding area and making sure everybody was calm around her. Everybody was talking

quietly. We were keeping her distracted. I was observing her skin color. I was observing the way she talked to me, I was trying to keep her talking so I could manage her consciousness and managing any other injuries that she had.

When you are dealing with an unconscious athlete, this becomes a different situation and you need to make sure that you, address and get someone to keep the parents involved and keep them up to date with what is going on. But your first priority here is getting into those compressions and starting those compressions. If you are at a sporting field, a lot of sporting fields these days should have an automatic defibrillator, making sure that that is nearby and is part of your medical tent, and that you get that on the athlete as soon as possible. Your breathing and monitoring the athlete's airways is a big one. And in that face-to-face, we will talk about the head tilts and we will talk about what normal breathing is because. It is amazing how you can adjust that neck, and you can open that airway and get a better airway going in for that breathing and change the breathing sounds.

Natalie: And just to clarify when Trish says to adjust the neck, it is not "adjust" the neck. It moves the neck.

Trish: Thank you, Nat. that is correct, we are not doing adjustments as in chiro adjustments.

Natalie: No.

Trish: We are going to do a head tilt, to adjust that airway. Nat, very good point, the airway is your priority. and ...Nat, we had a similar case on the news just recently, did not we?

Natalie: We did. You are about to take my example from later Trish, so stop. **Trish:** okay I will let you cover that in a minute.

Trish: When your athlete is unconscious, they cannot tell you what is going on. Managing that alignment of the head, you are doing that spine roll and we are going to do that in the face to face.

With collars there has been a lot of research on this and there is a lot of debate around the world as to whether to put them on and whether to not. In Australia, we have moved away from the hard collars. The ambulances here and all the paramedics prefer the soft collars, and they are more of the placebo effect. So, unless you are trained in how to put on a collar, you do not put a collar on. A lot of the first aiders in our First Responders courses that we do over here in Australia, is that we go onto another course with covers our spinal management to teach people how to put that collar on effectively, and why they need the collar and how they explain it to the athlete.

There is a little bit of a research article that when you get access to the notes next week, you will be able to look up if you are interested in that.

Moving the injured athlete, we are going to take the time here to manage the player's well-being and safety. We are going to use different things to make the player comfortable, and we are going to work out when to move. Now, just in the comments box, or if you are listening to this recording, I want you to start thinking about, what would be a reason why we would want to move an athlete? If the athlete has a serious spinal injury and we are really worried about their spine, would you move them? Just getting them off the field so that the game can continue is not a good reason to move them. But one of the things that we might consider is if the weather is getting worse, and the athletes in danger, this could be a reason why we are going to try and move them. When we do manual in-line support and our techniques in the face to face, we will show you how to roll an athletic and get them onto a spinal board so that you can move them safely.

Another reason is do you have the appropriate team to move them? You cannot move an athlete on a spinal board if you are by yourself or if there is only a couple of you. You need a team of at least six people or even four people to move them. You can get away with four but ideally, you would want a six.

Ask yourself is "Am I causing further harm by moving them?" and if you have got a yes to that question, then you should be maintaining that head alignment on the field, calling an ambulance supporting the athlete, keeping them calm, and waiting for the ambulance to arrive. So, some of the stretchers that you consider is the scoop stretchers adjustable, and that is the one that the ambulances have got to manage the athlete. Because they pull apart, either side, they can be fitted into around the athlete without rolling the athlete. The yellow spinal board is the one that is usually at a lot of the sporting fields and that one is appropriate for spinal athletes. You would have to roll to the athlete to get them onto this board. The orange stretchers are very flexible. They are not suitable to put a spinal patient on. They are okay if you have got an athlete with the fracture and you need to get them off the field, but because of their flexibility and because they have not got a stable base to them, they are not appropriate for the spinal patients. They really need that support.

We are going to practice this, but when we are going to do this spinal movement, we are going to make sure that everybody who is part of that team knows what they are doing, they know their role and they know exactly what they are doing. This is where some of the communication techniques that we are going to bring into the face-to-face sessions will apply. We are going to look at the HAINES technique. Now, the HAINES technique is the high arm in the endangered spine. So it is getting that arm right up high and it is a perfect alignment for that spine and we are going to roll them into that if necessary. Then we are going to make sure that the team are

not rolling the athlete onto the arms. We sometimes ask the athlete to fold them across the body. We are controlling their breathing, and ensure you make the athlete part of the process.

So our lifting methods [exhales], once again we...we are never rushing. If this goes wrong, then you stop. So, if people start lifting before someone else, you just stop and you start again. Once again, this is a process that needs to be done properly and it needs to be done where everybody's doing it together. [pause]

Natalie: We have got some scenarios as Trish promised, jump on the chat box because, hopefully, we can get a little bit of discussion here. We have at a boxing match. We get to the player and she is unconscious. We have witnessed the actual mechanism of the knockout and we suspect there is a spinal injury. What is next? What is the first thing we are going to do?

Trish: What do we think? Anyone? Let us know? Think about the first thing you are going to do.

Natalie: Absolutely. Check, breathing, check airways. A hundred percent. We are checking the airways, checking the breathing, checking circulation. What is next?

Trish: Repositioning the head to open the airway.

Natalie: So we are going to stabilize that head and yet keep in mind that at this point. Yes, they were breathing. They had a pulse, all of that just unconscious. We are going to get into manual in-line stabilization like Trish was just talking about. We are going to call for help and wait for the ambulance to turn up. If we have got access to the spinal board, we might use that to move them out of the ring. If we cannot move them keep nice and calm

Trish: In this situation, you would not want to move them unless you necessarily have to move the athlete.

Trish: When we look at a lot of your football codes. This example, we have a conscience player here that tells us they have a burning sensation in the neck region. We have stopped the game straight away because any situation where they report a burning sensations or they are telling you that they have pins and needles, you have got to stop that game for that further assessment. After two to three minutes, they say that they are okay. So what do you think you are going to do? Are you going to leave this player on the field to get up and play on? Or are you going to pull them off for a second reassessment? So what do we think? I am not sure that I would leaving this person on the field. I would be thinking that "yes, I would be reassuring them, and I would be pulling them off and getting that second reassessment.

Natalie: This is where you are bringing that TOTAP. So, you are talking to them, you are observing.

Trish: Remember that video early on in this session where the athlete is saying, "I am feeling, okay. I am alright. I do not want to come off, I do not want to...". I am just reassuring them that everything is okay, let us get to the sideline, do an extra assessment. We can get you back on the field if that assessment comes up clear.

Any red flag that they have experienced any unconsciousness, for any length of time, it could have just been for a couple split seconds or they do not know where they are, or they have said that they had a burning sensation in the neck or pins and needles. Even though they are feeling okay, after a couple of minutes, they need to come off.

Natalie: This is kind of a similar example, but different, I guess different approach. So, we have got the athlete and the coach coming to you. So, it is not necessarily that the injury has just, occurred. It may have occurred earlier in the day at an event. The athlete and the coach has come to you and the athlete is reporting of pins and needles into their arm, into the left arm up after a fall. The coach wants to know whether or not they can play. So, what is one of the approaches that we may use to check if this athlete is, clear to compete?

Trish: We are not going to take the pressure of the coaches. We are going to do our own assessment, and make sure that you are happy and you are comfortable with this. Make sure you do not feel like you are bullied into saying that an athlete is okay to continue on when you do not think that they are.

Natalie: Your assessment is definitely going to come into it, a hundred percent. But what may we do first? Which we spoke about it earlier in the presentation. How are we going to, start? We can go through that TOTAPS again. So, talk to them do an observation, history, that is going to come in the Talk part. Observe one side compared to the other one and start touching. See if you can find any areas of pain, get an active movement, passive movement, and then potentially take them through a skills test. If they are passing all of that, then potentially they can play if, if at any point you feel that they do not pass that, then you give your opinion that "in my opinion, I do not think you should compete anymore." But you also do have to keep in mind that while you have given your opinion, they still may choose to compete and that is up to them. If you make your opinion clear and your reasoning as to why, it is all you can do really.

This is my example that Trish tried to steal from me earlier. A lot of you may have heard of the Europe soccer or football player who went unconscious. Last week was it the Danish player? They were not moving or breathing. what are we going to do? In this situation, I only saw this briefing in the news, the first person to get to him was actually their captain, and from what I was reading,

he checked the airways, he cleared his airways, and he actually started CPR before the medical team arrived. Once the medical team arrived, they took over. I am sure they reassessed the athlete as they would have started from the start, check the airways, they would have checked the breathing, check circulation. The players did a good job of taking care of the danger. I think we all saw that both teams stopped playing instantly. Both teams called the medical staff out and then they formed a barrier around him to maintain his privacy. This was effective to try and limit some of the shock and the trauma to his family who are in the stands and the other spectators in the stands. Keep in mind that potentially the first responder may not even be medical staff.

When we are talking about that action plan, we are talking about all the preparation that needs to be done before you get to the event. Making sure that your training is up to date. Whether it be first aid, advanced first aid, your spinal first aid, all of those types of courses. The more you can have, the better prepared you going to be. Making sure that if there are any changes that you are staying up-to-date with them.

Do not overcomplicate the planning process if there are protocols and processes in place, that are really good, making sure that you, follow those. Knowing where you fit in in the medical team as well so that you can provide the best support. Know who you are responsible for, know who you are responsible to. One of the things that we are not going to go into super detail in here, again, is oxygen. If you are trained in it, wonderful. Use it. It is an amazing resource to have to help enrich the tissue respiration. if you are not trained in it, obviously you are not going to use it ,but try and find out if there is someone available at the event who is because, as I said, a great resource to have if you have got that training.

The equipment that you need when we are dealing with using the oxygen, is a cylinder and a regulator which is sown. You are also going to have the nasal cannula which is the things that go up your nose, your rebreather mask, and a bag valve mask so the one that you sort of squeeze to, to help get that in as well.

First aid kits. There are a tons of them out on the market, you could buy. Whatever you wanted in terms of first aid kit from super basic to super. Your kit will come with fairly standard things. Trish has put together here, over the next 2 slides, some really nice things that you may want to make sure that you have in your first aid kit. Whether it be a bought one, or whether or not you are just putting it together yourself. There is going to be things that do not come in standard kits, that are going to be super handy, like jelly beans. Obviously, if you have got someone who is diabetic, jelly beans may be the thing that saved their life. Another thing that is not on this list that is handy is something salty. So, a packet of chips, some pretzels. Because people can overhydrate themselves which dilutes them. So, by giving them something salty, it helps balance everything out. It is quite impressive to see how quickly that can work.

Take-home messages: There are some reflections here that when you do your hands-on, these questions are going to be revisited. So, making sure that you do have a think about them. Maybe jot something down in your notes so that when you come together and have a discussion you have got a bit of an answer prepared.

Think about the teams you are looking after, and what medical information about the players that you can share with others. Jot down some examples that you have, you have had. You have got about ten seconds when you arrive at a scene to take control. If you are calm, in control, you know what you are doing, people are going to trust you and they are going to take a step back and let you lead. For this example, you have an athlete who is screaming in pain and holding their knee. There are a few players around the player yelling at you, and the parent has jump up over the barrier and they are running out to the player. What is the first thing you are going to do when you arrive at the athlete? You do not need to answer that now. Have a bit of a think, jot some things down, and we will discuss when we all get together.

Trish: These last couple of slides will be available for you as part of this recording. At the very end, we have a couple of slides that talks about some of the ethic consideration, and this is something you really need to consider in your own country and your own environment as to the different ethics that are in place for a first responder and the different sports that you are working with. There is a couple of different ones here for you to read. From the FICS' perspective, if you are working at a FICS event, there is a few ethics policies that we have in place at the game's level and these policies will be given to you at the time of being selected at a game. It will be your responsibility to follow these and know these. So, once you get your ICSC and you get to ready to come to these games, which we hope that you all will, it is a matter of getting these ethics policies early and I can send them to you at any stage so it is just a matter of reaching out to me. There is a really good one here in creating and maintaining clear, sexual boundaries between chiropractor and patients that the Games Commission and FICS developed in the last 5 years. This was a result from a thing which happened at International Games. So, if you are interested in that policy, once again, reach out to me and I can send that to you.

On that note, I would like to thank you all for taking the time to listen to Nat and myself. I hope you have taken something out of today and I really look forward to, listening to any feedback that you may have in the comments over the next couple of weeks as you rewatch some of the recordings.

[End]