

## Tape – Sprain – Treat – Repeat

The multi-billion dollar Ankle Sprain Industry – Sponsored by Big Tape and delivered by Sport

(21 mins)

### Part 1 The Asset

Are ankle sprains just part of sport, because that's what we used to say about concussion and now we know better. Ankle sprains are the most common costly and painful joint injury on the planet and miles of tape from physiotherapy and their partner sponsors have somehow failed to prevent it. Number one of all Sports injuries and at well over one hundred billion dollars annually, the most prevalent and costly preventable joint injury on the planet. The problem is the value of ankle sprains themselves has created what I call an 'Ankle Sprain Industry' and those within the industry and supported by Big Tape dollars, simply have no incentive or reason to question the practice of 'prevention' or management as it exists today. It is simply far too lucrative, and 'rolls on' without regulation, standards or consistent protocols that respect ankle sprains through post traumatic ankle osteoarthritis PTAOA and a total ankle replacement TAR, as cumulative trauma!

*"Lateral ankle sprains (LASs) are the most prevalent musculoskeletal injury in physically active populations. They also have a high prevalence in the general population and pose a substantial healthcare burden. "...associated with decreased physical activity levels and quality of life and associates with increasing rates of post-traumatic ankle osteoarthritis, all of which generate financial costs that are larger than many have realised."*<sup>1</sup>

People like you, me, our children and our favorite athletes are simply 'fodder' for the 'cash cow', where our rights to a safe work or sport environment have been sold to foreign medical company interests. They perpetuate what was once a stop gap solution in the first-place, ankle taping, existing virtually unchanged and the industry without innovation or evidence of repair for over 70 years. And the word 'Safety' is considered a dirty word and ankle PPE? Well, what's being used on you, your children or your favorite athletes isn't even considered PPE.

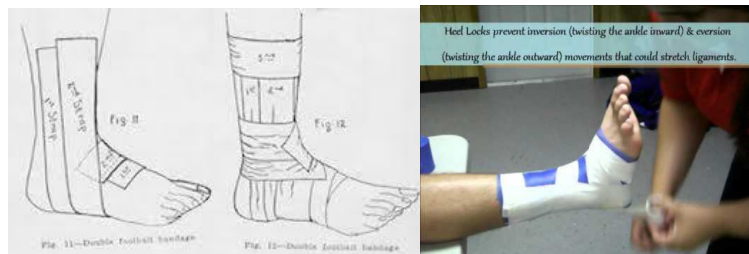
I struggle to imagine the human pain and often lifelong suffering sometimes beginning in childhood that \$100 billion plus represents but like many of you I know that pain personally. However what pains me most is knowing ankle sprains or Lateral Ankle Sprains LAS (technically) can easily be prevented but those you trust to keep you safe at work or sport, or advise and treat your injury, have become so corrupted and conditioned by sponsors interests and dollars, you need to know what's going on; how to take control back for you and yours.

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<sup>1</sup> Evidence review for the 2016 International Ankle Consortium consensus statement on the prevalence, impact and long-term consequences of lateral ankle sprains



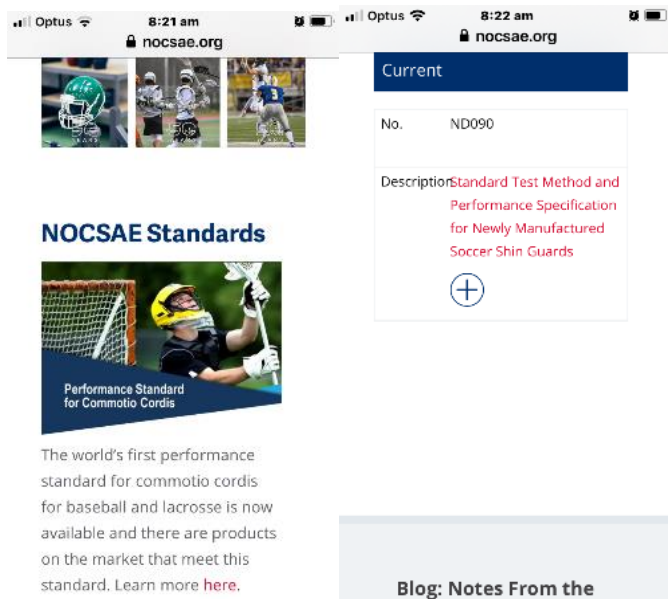
Why do you think we could put Man on the moon over 50 years ago and now nearly Mars, and not prevent the common ankle sprain? Is it really harder than space flight and rocket science, no.



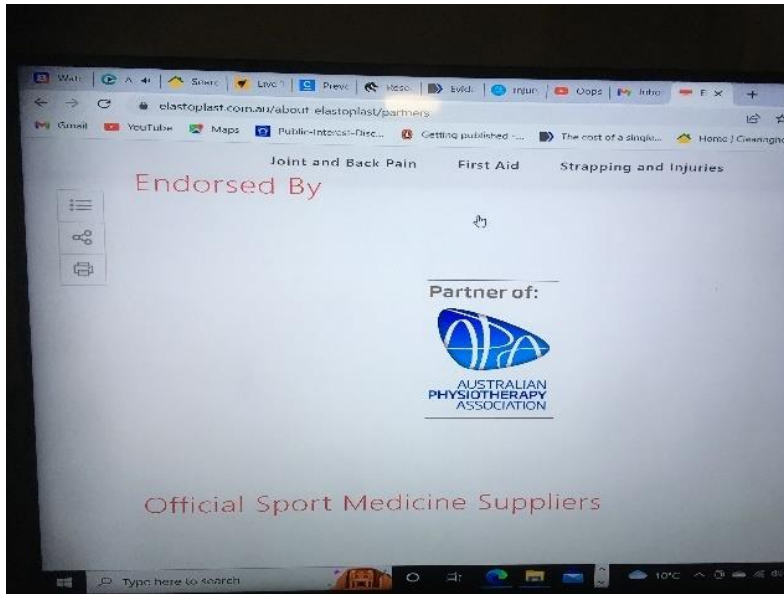
Why hasn't ankle taping evolved in over 70 years like every other form of sport safety, helmets shoes etc.?



Why have there never been standards or mechanical testing developed like helmets and concussions, when concussion is far less prevalent and costly than ankle sprains will ever be? Even shin pads have Standards!



Ankle Tape and bracing is PPE and you wouldn't use a Helmet on your children that didn't have a 'standard' label? Or use a 'safety net' under a trapeze that was half full of holes? Does Ankle taping and bracing "prevent" injuries, 20%, 50% or 100%, who would know? Ankle PPE can be up to 100% effective for ankle sprain risk but how would you or anyone know when the system is motivated by profit not child and workplace safety? I wonder how much it costs to buy yours, your children, or your favorite athletes ankle injuries and that trust?



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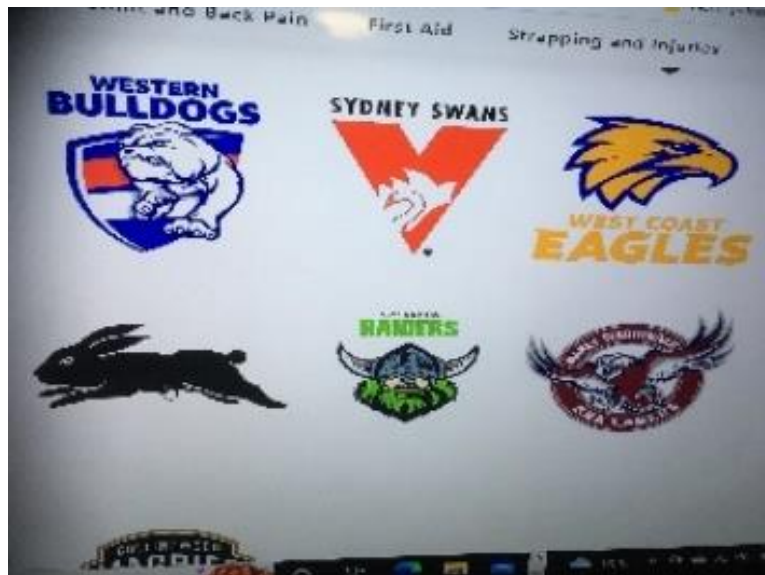


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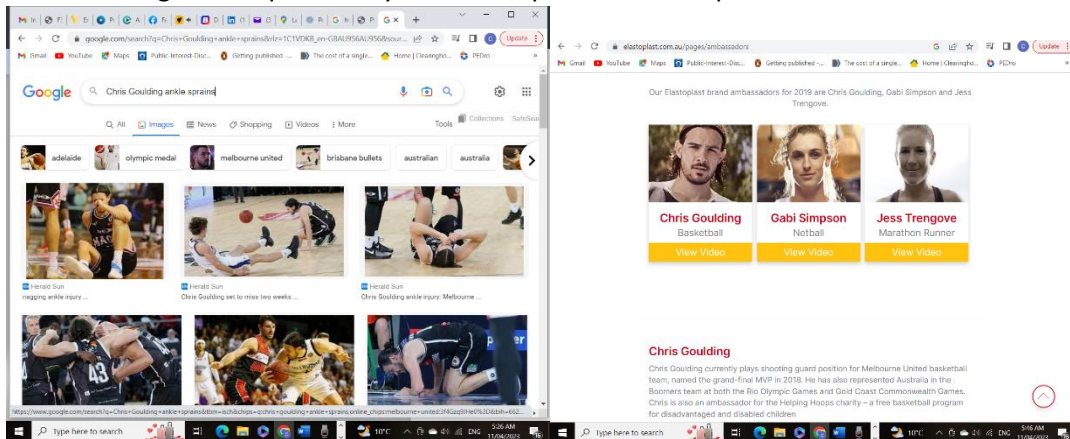
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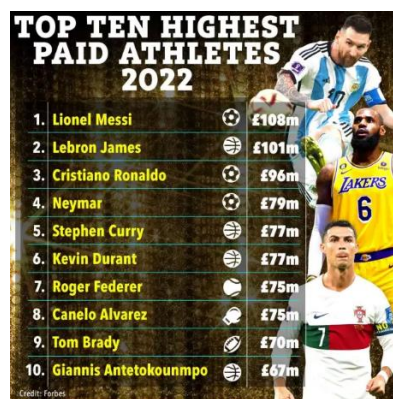
Chris Goulding – From poster boy for Ankle Sprains to Elastoplast Ambassador at what cost?



Waste and cost are some of the main reasons ankle bracing has developed, and ironically, also why ankle braces are ineffective as PPE and have no Medical Intent for rehab; Ankle braces tried to copy 'tape' and in doing so continued to 'bark up the wrong tree'. They chased a goal that was a flawed and baseless proposition in the first place, ankle taping. Probably a 'stop-gap' decision originally that became a lucrative proposition, then an industry, and then just too darn big and valuable to change.

*"should we really ask athletes—or anyone who is being physically active regularly—to use a 50-year-old solution that current evidence doesn't truly support?"<sup>2</sup>*

If you have a think about the far greater prevalence of ankle sprains, the potential negligence (at best) that caused it, and the value of athletes' contracts today, the 'harm cost' of 'concussion', a cool billion dollars US to the NFL alone (so far), could well pale into insignificance in light of the potential trillion dollar compensation for preventable harm to ankles for 'selling' athletes rights to safe sport and work?



Rank	Athlete	Earnings (m)
1.	Lionel Messi	£108m
2.	Lebron James	£101m
3.	Cristiano Ronaldo	£96m
4.	Neymar	£79m
5.	Stephen Curry	£77m
6.	Kevin Durant	£77m
7.	Roger Federer	£75m
8.	Canelo Alvarez	£75m
9.	Tom Brady	£70m
10.	Giannis Antetokounmpo	£67m

<https://greekcitytimes.com/2023/01/04/highest-paid-athletes-insane-2022-fortunes-revealed-include-giannis-antetokounmpo/>

*"Among former NFL players, a history of ankle injury increased the prevalence of OA. More ankle injuries increased the probability that OA negatively affected daily activities. Future prospective research is needed to better determine the influence of surgical intervention at the ankle or foot on OA."<sup>3</sup>*

Simply put, failure to understand the injury and restore joint integrity, then unnecessarily restricting the essential function of ankle 'roll' are contributing to long-term harm and ligament laxity, and therefore chronic ankle problems such as Chronic Ankle Instability CAI and Post-traumatic Ankle Osteoarthritis PTAOA, feeding the 'cash cow' that is the global ankle sprain industry.

Since there is no protocol that considers PTAOA and cumulative trauma due to rupture of the tibiotalar synovial joint with ligament rupture, this needs to be considered initially and BEFORE

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<sup>2</sup> What's In A Name? That Which We Call Workout Shoes, By Any Other Name Could Be Personal Protection Equipment...Could It Not?

<sup>3</sup> Osteoarthritis Prevalence in Retired National Football League Players With a History of Ankle Injuries and Surgery.

returning someone to play. And what we are doing with tape and bracing that restricts ankle roll, creates stress on the injured ligaments, and the inability to maintain the even loading of the cartilage, predisposes you to PTAOA long term. IF athletes were sidelined for the correct amount of time to ensure and image repair you might just find the team Owners, the Athletes and Fans demand the injury be prevented more effectively. Right now, 'Ankle Sprains are just a part of Sport', but I remember that concussion was also once just a part of sport, and the pressure to play and perform pushed the long-term consequences further down the track. Then litigation, science and the Media closed the gap. With the media focus on how well ACL injuries and concussions are being managed by 'Sports Medicine', avoiding a much larger problem, you have to ask, is the tail wagging the dog?

Bottom line is, unregulated and untested ankle taping and restrictive ill-conceived bracing has no place in a sports workplace as PPE, on injured ankles, and certainly not on children. Imagine if you walked into a State-of-the-art Professional Sports team HQ today and tried to tell them a roll of 2" or 50mm rigid ankle tape was to be used on their multi-million-dollar athletes as PPE?

Ankle sprains, their prevention and rehabilitation, are not sponsorship opportunities, they are basic rights to safety, legal for sure in the professional sports workplace. This outdated practice can be 'unwound' simply by using the template created by the less costly and less prevalent example of Class action NFL lawsuits, concussion through to helmet and headgear testing, standards and management protocols for acute injuries. Acute management protocols that understand and consider ankle sprains and their long-term consequence as they should rightfully be: The greatest sports cumulative trauma injury that has ever existed. And let's not forget that's no accident.



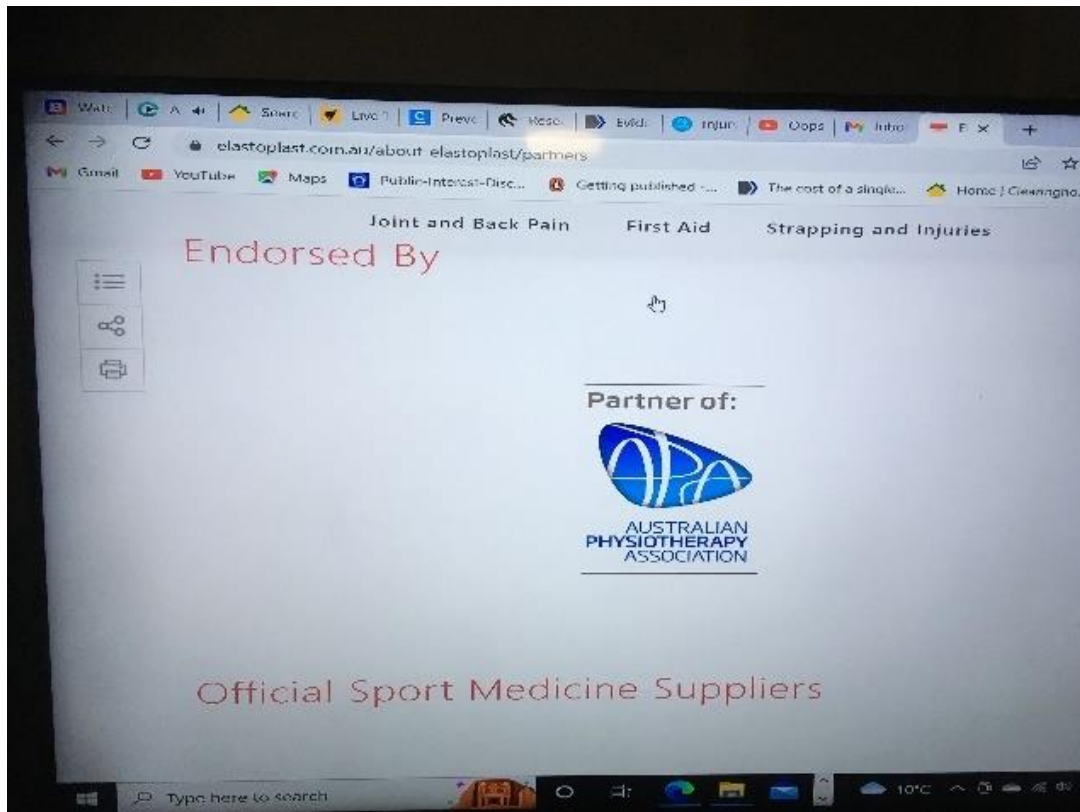
There are 101 uses for Sports tape, just not on injured ankles or Children. #13 Inflight repairs

8 minute read

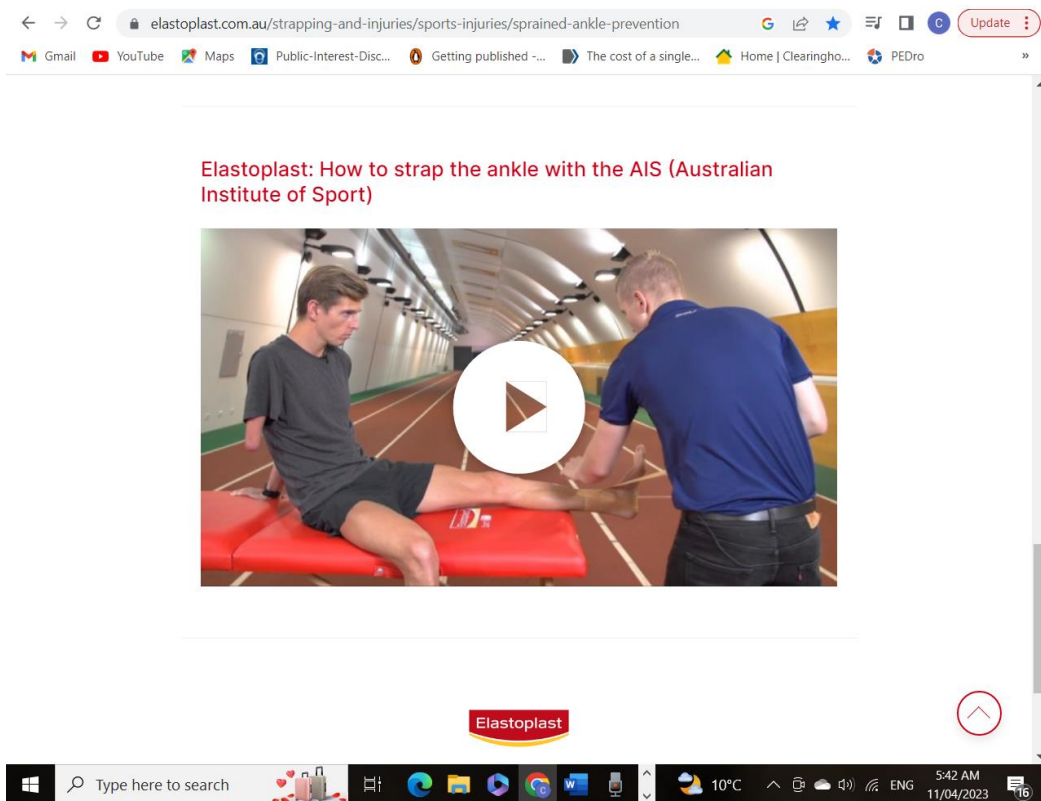
## Part 2 The Liability

What is the 'game'? The game is selling ankle taping by sponsoring elite sports, Physiotherapy, Sports Medicine, and Athletic Training, effectively 'buying' yours and professional athletes rights to a safe sporting environment or workplace. Physiotherapy has been elevated to a level of trust where the 'Safety Decision' regarding prevention, is all too willingly deferred to those with the most to gain from injury and tape sales themselves. Without any independent risk assessment and mitigation process, regulation or standard consistent with any other sports related safety or rehabilitation risk

or equipment, those whose only motive is to profit from harm, even to children by imitation, operate with impunity.



Elastoplast Partner Australian Physiotherapy Association and is this an endorsement of 'tape' by the Federal Government by proxy courtesy of a commercial relationship between the AIS and Big Tape?





Indeed, in some cases they are officially sanctioned by what appear to be independent statutory authorities or in some cases government authorities. Unbelievable right?!

At over \$100 billion a year, ankle sprains no doubt present a business opportunity if you are a physiotherapist or athletic trainer, and let me be clear, I'm not against physiotherapy in general, in fact I think, like you, they and the Leagues have all been had. Except it's only physiotherapy, ATs and the leagues getting the sugar, the rest of us are just getting the pain, physically and financially, sometimes emotionally, sometimes lifelong. But hey we've always got our local physiotherapist to rely on. "I've got their number here; they sponsor my daughters netball club".



It's just Big Tape have, through sponsorship, financial incentive and restriction of exposure to alternatives, used you as they have the rest of us, for profit. It's almost inconceivable in its audacity, effective indoctrination and extent of harm, so what will lead to Safer Sport, improved rehabilitation and quality of life outcomes? And is compensation due for all that could have been prevented, through the largest single class action 'sports medicine' has ever seen? What happens next, I think that's probably still unclear, and a lot depends on what people do or did when they knew there was a problem, and most of you may be learning this for the first time now.

Who is responsible? Is it Big Tape or the Owners of professional teams, or the Leagues themselves? Perhaps the Physiotherapy and Athletic Training associations or the Trainers and Physios at the point of application if basic rights to a safe sport workplace was and is their responsibility? Is it an accident, like ankle sprains, that any of these organisations could have individually made sport safer on their own, but haven't, and they all share a financial arrangement? Maybe that is just a

coincidence or an 'accident', like your daughter's ankle sprain, just waiting to happen because as discussed there are no rules, regulations, tests or standards to inform you or hold anyone to account, yet.

Big Tape know that their products are going to be used during rehabilitation on children and in the sports workplace as PPE. They know that this product and system has a significant failure rate and consequence as PPE yet have never evolved to make them safer. By comparison helmet manufacturers in American Football at least continued to try and get safer. So, did tape manufacturers neglect the end consumer in some way?

So, what did Big Tape do over the last 25-30 years? Well, it seems they've deferred responsibility for tape use to athletic trainers and physiotherapists. Now whether that's by empowering them through sponsorship, kudos and certification, effectively 'Conditioning' them, that's for others to decide. So let's look at the physios and athletic trainers.

Whether they like it or not, Athletic Trainers (in most cases in the USA) and Physiotherapists (in Australasia and Europe) are, in most sporting situations, making the Safety Decision on behalf of you, your children, the club, and possibly Big Tape. I was surprised that whilst ankle taping and bracing in a sports workplace is clearly workplace Personal Protective Equipment PPE, there was a lack of understanding, or even active resistance to that concept, Safety, on numerous occasions in the US. Introductions to NBA, MLB and Division One College team medical facilities were conditional on me not mentioning the word 'safety'. I had a private moment with one of the doctors at an NBA team while there and asked if he thought it was a safety issue to which he replied, "It is 100% about safety". "25 % of NBA players will sprain their ankle and miss at least one game this season". It was obvious 'fear' of the word 'safety' in the pro locker-room was their 'Achilles Heel'.

Physios and ATs know taping ankles has a significant failure rate but somehow, they become conditioned to accepting that, (Scott Epsley 76ers Physio "we have a system that works") and rarely if ever did they disclose that when you stretch or tear your ankle ligaments, nothing they do has ever been shown or proved under MRI to heal or repair it to preinjury state. Such that PTAOA post traumatic ankle osteoarthritis is a potential given (workplace) outcome of this 'accident'. And they have accepted funding, kudos and certification from Big Tape, and many of them are paid to promote, advocate and demonstrate, 'conditioning' and 'indoctrinating' others into the practice of taping, so it is easy to see how you could become incredibly resistant to alternatives.

The National Athletic Trainer's or Sports Medicine Associations and Physiotherapy Associations who could be conducting independent reviews of safety and medical outcomes, simply don't. In many cases the best review you can get of a product is a paid endorsement. So, physiotherapy and athletic training have taken money from Big Tape, they haven't assessed and mitigated risk while they're in the safety decision making position (Safety isn't in any known professional Charter) and haven't disclosed the long-term harm. It is classic 'conditioning' to accept injury and not see or consider the consequence of their actions or they're just following 'orders', or protocols laid down by their Educators or employer in the workplace; isn't it the employer's responsibility to consider workplace health and safety? After all who is the 'Boss'?

So, I'm a team owner and I employ athletes, and I also employ athletic trainers and physiotherapists with a resume and portfolio of taping techniques and a degree in Athletic Training or Physiotherapy from a reputable university. And they are also full members and accredited by the national association, trusted bodies with an extensive history of protecting and rehabilitating ankle injuries; aren't they? We even have an income item 'sponsorship', money, where we get paid to use the

product anyway so there's really no reason to consider an alternative because we already trust in and pay for the best products and advice. Or should we just have applied a consistent workplace health and safety risk assessment and mitigation process like any other workplace hazard instead of trusting the professionals? I'm thinking you probably should have done both, applied a consistent risk assessment process, and independent of your employee's safety, consider whether a tape sponsor might still be possible for the 101 other uses for tape except as PPE or on Children's ankles.

The professional leagues, where most of our favorite teams and athletes work, make a living and take incredible risks during a very short 'work' window, which is a professional athlete working career, did what? The leagues have been taking sponsorship money from Big Tape for decades such that any team has a guaranteed income source from the leagues major sponsor. They failed to provide any consistent oversight of the impact of that sponsorship on workplace safety and defer responsibility to the individual teams, perhaps? What duty of care do the leagues have when they accept and recommend a sponsorship as part of their deal for their employees, not the athletes; the teams work for the leagues. In the end none of these organizations are benevolent, they're all in it for the money, using sport as the source of revenue.

So is it actually the responsibility of regulators of safety and sports equipment to have done something? Or like helmets and concussion, these things come from documented known harm and litigation, rather than an active understanding of the risks and safety of populations? There is a role for regulation, testing and standards, because like Big Tobacco where they knew the harm consequence long before it was uncovered, when Big Tape could have, and I suspect did recognize the problem in one way or another, they did nothing but potentially defer and delegate responsibility. It simply reiterates the fact that sport and ankle injuries are not about you and your long-term safety and health, it's all about the money. So yes, regulators could have 'seen' had they remembered the past and been actively looking, but with nobody waving a 'red flag' that anything was wrong?

Part 2 = 10 minute read

Part 3 The remedy

Considering what's to lose financially by preventing the common ankle sprain, you can see why nobody within the system really thought it was broken. Now there is a focus by 'allied health professionals' on concussion and ACL injuries, avoiding the most common and unsolved ankle sprain, a distraction Penn and Teller would find joy in. The bottom line for me is that physiotherapists and athletic trainers knew (or should have known) this was PPE and they couldn't rehab the ankle ligaments effectively, yet happily accepted the Safety Decision, Duty of Care and workplace safety responsibility and the money.

It is an effective model for sports and injury exploitation, it just ignores your rights to a safe workplace or PPE and lacks a consistent risk assessment and mitigation process like other risks or hazards. Unless we do something to demand and implement change, you and your kids and your favourite athletes will continue to pay for it all financially and physically, sometimes lifelong, and that, in my mind, is just wrong on so many levels. I would not be surprised to find others have developed safer and medically more beneficial products and methods too, but likely they have experienced the same unlevel playing field I have. Only independent Safety Tests, Standards and Medical Evidence of health benefit or repair will level this and make sport safer.

There are numerous other products regulated tested and standardised such as helmets and shin pads to use as examples. You and your advocacy are the only thing that will and can change that

because now allied health and Professional Sports Leagues (who are all being paid by Big Tape) are 'happy' to exploit and perpetuate our ignorance for profit, because to them the 'Ankle Sprain Industry' is working according to plan! And it will continue unless we do something about it, and concussion through helmet testing and regulation tells me we can!

Some of these tools can help change the game on social media platforms, or you can just make your own statement. Write a letter or start or sign a petition. Make a complaint or report about your concerns about safety or sport integrity. Or simply ask the questions: How safe is the method you are being offered or prescribed and how do you know? Or after injury ask to see the evidence of repair or restoration, especially if you are in a 'workplace'.

Join or start a Class Action Lawsuit is an option that has worked in similar situations. Whatever you can do, just do it 'safely' and when it seems tough, just remember the kids writhing around on the ground in pain and you may just find difficult choices become easier ones. Ultimately the 'safety decision' is yours.

Part 3 = 3 minutes

1. **Evidence review for the 2016 International Ankle Consortium consensus statement on the prevalence, impact and long-term consequences of lateral ankle sprains**

<https://pubmed.ncbi.nlm.nih.gov/27259753/>

2. **What's In A Name? That Which We Call Workout Shoes, By Any Other Name Could Be Personal Protection Equipment...Could It Not?**

[https://lermagazine.com/editor\\_memo/whats-in-a-name-that-which-we-call-workout-shoes-by-any-other-name-could-be-personal-protection-equipmentcould-it-not](https://lermagazine.com/editor_memo/whats-in-a-name-that-which-we-call-workout-shoes-by-any-other-name-could-be-personal-protection-equipmentcould-it-not)

3. **Osteoarthritis Prevalence in Retired National Football League Players With a History of Ankle Injuries and Surgery.**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6863693/?fbclid=IwAR2goSX8kzguXC2RhYi-PqQHl5kieqpYR1csjhFEm2O0iQHqkvK0Gphhxl>

#### **Further reading**

**What If We Adopted PPE as a Mindset for Ankle Protection?** Lower Extremity Review. 2020;8:15-16. <https://lermagazine.com/issues/august/what-if-we-adopted-ppe-as-a-mindset-for-ankle-protection>

**Joint Pressure, Volume and Alignment in Development of AOA: Indications for Orthobiologics and Surgeons.** <https://maplespub.com/article/Joint-Pressure-Volume-and-Alignment-in-Development-of-AOA-Indications-for-Orthobiologics-and-Surgeons>

**Preventive interventions for lateral ankle sprains: A systematic review and meta-analysis.** Wang F, Guan Y, Bamber Z, et al. Clin Rehabil. 2023 May;37(5):585-602. doi: 10.1177/02692155221137640. Epub 2023 Jan 11. PMID: 36630892.

**2016 consensus statement of the International Ankle Consortium: prevalence, impact and long-term consequences of lateral ankle sprains** <https://pubmed.ncbi.nlm.nih.gov/27259750/>

Episode 2 (17 minutes plus explain ASAM grades + 5mins = 22)

### The 'Ankle Joint' Form and Function

Why is the 'ankle joint' the most fascinating and important joint in the human body? Well, it is both a 'Safety Valve' for the lower limb protecting it from injurious forces but most importantly, its 'universal' function allows all your weight and motion to be transferred to the ground and achieve the incredible feats of athletic performance humans have and can. Why do I say 'ankle joint' in inverted commas? That's because what is commonly referred to as the ankle joint is actually two separate joints which combine into what is known in engineering terms as a Universal Joint. A universal joint is commonly used to transfer forces between two non-parallel planes of motion, like in the steering column or drivetrain of your car. I suspect it became popular in engineering because it's so effective in humans.



It's important to understand the two different joints so we understand what the term ankle sprain actually means. The upper joint also known as the talocrural joint is what lets your foot go up and down. Left.



Beneath that is the subtalar joint which allows your foot to go side to side, roll in or out. Right.



Combining the two joints allows your leg to externally rotate and you to change direction.

While standing with your foot flat on the ground and your knee slightly flexed, externally rotate your knee outwards. You will see as the lower limb rotates so does the subtalar joint, evident because your foot wants to come off the ground and roll onto the outer edge.

Now repeat the same motion but this time try to keep your foot flat and not roll onto the outer edge. You will find you can't rotate your lower leg and there are increased forces at the knee and rotary forces trying to push the lateral malleolus backwards.



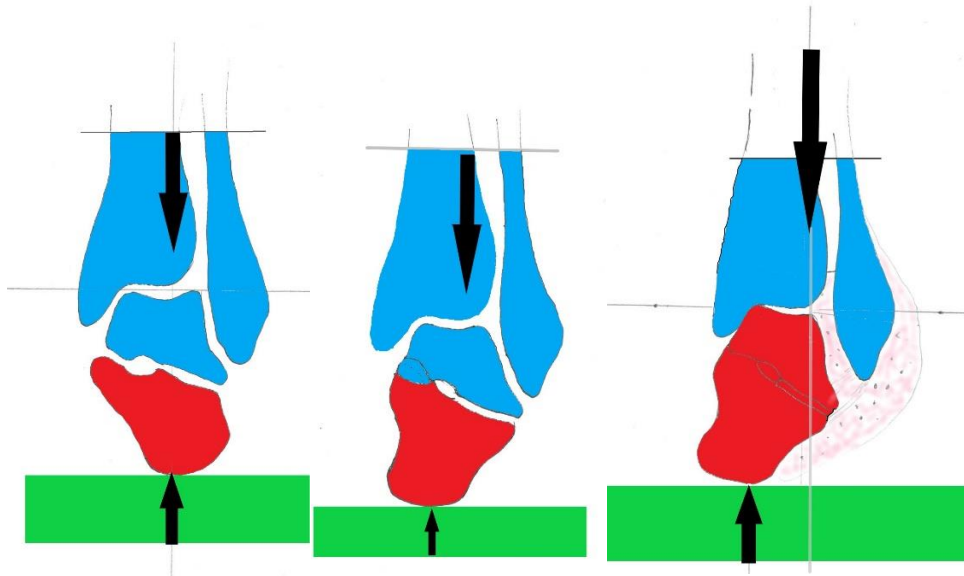
The only thing stopping it is or are, the lateral ligaments attached to the fibula (outside ankle bone), which if already stretched or injured are going to be loaded, stretched and compromised continually simply to accommodate normal force transfer and direction change, if the subtalar joint is restricted from doing its role to roll. Since most methods used postinjury and on young people are based on restriction of subtalar joint range of motion ROM, I contend that their use especially on acute injuries may well be the cause rather than the cure for lateral ankle sprains.



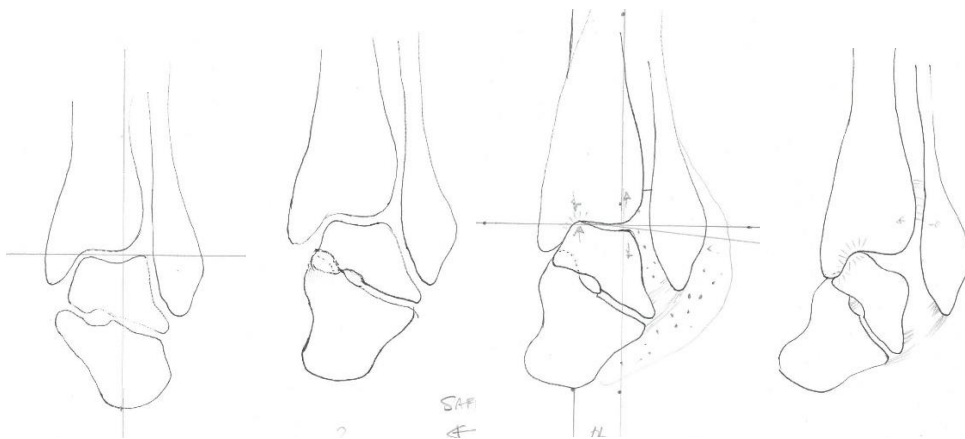
Allowed to function properly the ankle safety valve reaches LAS 'tipping point', where body weight is outside the base of support and continues to de-weight through external rotation as the person collapses in a spiral fashion. Anyone who has taught or been taught to 'fall' will recognise the approach to injury prevention but also that sometimes things just happen too fast or too hard: And the latter are probably both human frailties not design flaws.

The 'Ankle Sprain' explained

So what are they talking about when they say “You have a sprained ankle”. What has happened in what’s called the common ankle sprain or a lateral ankle sprain LAS, is that the lower subtalar joint has reached its limit and locked up, because it can’t roll any further outwards. When it does this the lower leg is also rotating outwards relative to the foot, your body weight has shifted outside your base of support and your ankle safety valve is trying to relieve the forces overtime. A lot of the time this is enough to prevent injury but in certain circumstances things just happened too fast for human reflex and the subtalar joint locks up with part of your body weight still pushing on it.



Now the force remaining is transferred to the upper joint, the one that goes up and down attempting to tear the joint capsule apart, and the most commonly injured ligaments are on the outside of your ankle, the Anterior Talofibular ligament ATFL and calcaneo-fibular ligament CFL to the back.



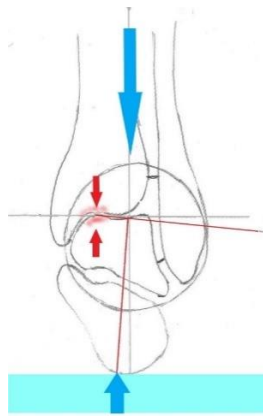
If the load remains and the foot fixed, the leg will continue to rotate out and further tear the lateral or outside ankle ligaments and rupture the upper talocrural synovial joint. Both the rotary and compressive forces may well cause compression damage to the cartilage surfaces of the talus where it meets the bottom of the leg bone the tibia, but mostly on the inside of the ankle.

What is most important to note here is that ***the ligaments of the upper ankle aren't injured until the limit of the lower joint, most commonly known as inversion, is reached.*** In 1973 it was referred to first by AB Ferguson as the ‘Ankle Safety Valve’ in an article *The case against ankle taping*. So why does it make sense to brace and tape to restrict inversion? All the important functions of the ankle

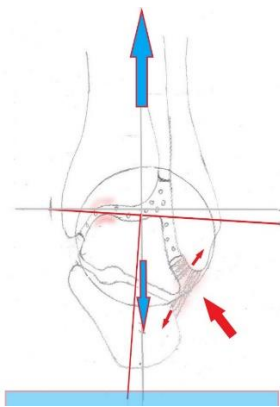
for survival and native prevention, and by extension repair of itself, are compromised not only on good ankles but on injured ankles that you're trying to restore innate function to?

Fun fact, the same collagen fibrils that enable starfish to regrow limbs exist in our own ligaments, so is it amazing that starfish can regrow limbs or that we've forgotten how to regrow our ligaments? My aim is to respect and 'harness' the natural ankle function and role as a safety valve for the lower leg as PPE and restore joint integrity and stability to create a safe environment rich in stimuli to foster ligament repair either naturally or augmented with Orthobiologics, Stem Cells or Platelet Rich Plasma PRP.

If you've had an ankle sprain you may remember there may be pain on the inside of your ankle underneath your inside ankle bone if you put weight on it? That's likely bruising or damage to the cartilage on the surface of the talocrural joint, and each time your foot contacts the ground, unless you support the joint that's injured, that area of injured cartilage and bone loads unevenly when you put weight on it again, causing 'point loading pain' PLP. And when the foot lifts, the outside ligaments stretch because of the weight of your foot and inertia, causing ligament stretch pain LSP.



PLP Point loading of damaged cartilage on weight-bearing.



LSP Ligament stretch pain when foot comes off the ground.

Both are the only reason you can't walk after an ankle sprain and KiSS as a principle or product can help you eliminate these primary sources of pain, or the Biomechanics of Ankle Pain, and start walking again.

7.30 mins

An Acute Ankle Sprain Management protocol

What is being missed in acute ankle sprain and RTS protocols?



There are two vital things missing in current assessment of ankle sprains and this is where grading, assessment and imaging of ankle sprains becomes important. The first is a determination of the integrity of the Synovial capsule of the upper talocrural joint and to look, actually visualize through imaging CT MRI etc, restoration of ligament integrity and joint alignment following rehabilitation. The latter remarkably never happens and on the few rare occasions in research I could locate where a follow up MRI of ankle ligaments post rehabilitation has been attempted, all but one had no ligament repair and only one had scar tissue. I am informed that a follow-up MRI to examine the integrity of the joint and ligaments after rehabilitation is considered “an unnecessary medical procedure” when in any medical or legal sense, understanding the extent of long-term harm (for RTS or Workers compensation) should be the most necessary medical procedure, unless there was a reason for not wanting to see the ‘result’? You can likely request one, even if you have to pay for it directly for now. If I was in a workplace I would request a follow-up, but not just a subjective one as happens now.

The integrity of the talocrural synovial capsule and its synovial fluid (Non-Newtonian lubricant and joint spacer) function, its pressure, volume and alignment are important considerations for the long term. Currently it is being ignored, and since there are no known causes of ever-increasing onset of PTAOA at an early age, prominent Ankle Surgeons agree the theory of restoration of joint pressure may have merit.

Consider a grade I or II sprain, you have stretching of ligaments on the outside of your ankle and minor tearing of tissues but inside the joint, what happened to the liquid synovial fluid with traction and hydraulic forces trying to pull the joint apart? The hydraulic forces that together with the ankle ligaments hold the talocrural joint ‘together’ are substantial, like trying to draw on a 3 cm diameter syringe with the cap on, its resistive force is significant.

Following ankle sprains it has been observed on MRI that this drop in joint pressure through traction, and the internal volume of the joint expanding, causes nitrogen bubbles to appear in the synovial fluid to fill the extra space. Like the bubbles that ‘magically’ appear when you open a bottle of carbonated drink like beer or soda. Unless you address this increase in space and its subsequent effect on constantly stretching the injured ligaments, you're not going to get the ligaments back into a shortened position to apply optimal loading of its normal length. A lack of or drop in pressure caused the nitrogen to come out of solution, so the KiSS method is designed so we can ‘pump’ it back in.

#### Sample ASAM Protocol

Diagnosis confirmation and suggested imaging, suggested interventions or Remedy, and Return to Sport/work basics will be covered in detail in *Prevent – Repair – Regenerate*.

Grade	Description	Diagnosis - Observation
I	<p>Lateral ligaments stretched. Confirm grade I</p> <p>Apply KiSS restores mobility reduces LSP ligament stretch pain</p> <p>Swelling localized to above and over the lateral ligaments</p>	<p>LSP positive indication toe off</p> <p>Talar tilt minimum = IAP OK and ligament length stretch minimal</p> <p>PLP negative on weight bearing = talar dome OK</p>

II A	<p>Lateral ligament visible extension</p> <p>Talar defect</p> <p>Increased joint volume and IAP, increased ligament length</p> <p>Confirm intraarticular pressure IAP positive.</p> <p>KISS reduces LSP and PLP but talar tilt still positive</p> <p>Swelling localized to above and over the lateral ligaments</p>	<p>LSP positive in traction &amp; toe off</p> <p>PLP positive on weight bearing</p> <p>Increased talar tilt</p> <p>Hydrostatic resistance in traction</p>
II B	<p>As for IIA plus</p> <p>Confirm IAP</p> <p>Confirm synovial space not visible on weight bearing MRI etc</p> <p>Swelling of whole ankle may indicate rupture due to increased oedema and inflammation response.</p>	<p>No hydrostatic resistance in traction indicates leak or rupture synovial capsule</p> <p>Talar tilt at toe off and prone = positive</p> <p>Talar tilt weight bearing normal = rupture</p>
III	<p>Talar dome insult</p> <p>Complete ligament(s) rupture</p> <p>Zero IAP</p> <p>KISS reduces PLP but significant medial PLP remains</p> <p>Talar tilt is normal prone and toe off and LSP minimal</p> <p>Swelling of whole ankle may indicate rupture due to increased oedema and inflammation response</p>	<p>Weight bearing medial PLP</p> <p>Low LSP at toe off</p> <p>No hydrostatic resistance in traction</p> <p>Talar tilt at toe off and prone = positive but weight bearing = normal</p>

I would like to know more about the composition of the oedema or swelling, and whether it contains a significant amount of synovial fluid. For mine, with the pressures inside a normal tibiotalar joint being quite significant, I theorize that it is the synovial membranes 'pumping' fluid into the space due to a relative vacuum being created, until it is either resealed or maybe it just 'shuts off'? Either way, PTAOA is pretty much a risk unless you repair it, or Cumulative Trauma, so like concussion, this needs to be considered in EVERY ankle sprain assessment and RTP program or clearance.

A Grade III or proposed Grade IIB sprain with rupture of the ligaments and joint capsule, and loss of joint synovial fluids either in part or completely can be 'fixed' according to Ankle Surgeons I have consulted. The importance has not yet really been considered, however at least in theory with modern practices, entirely possible. To read more on this and the possible links between loss of joint pressure, Decompression Sickness and PTAOA see JRBM and brainstorm solutions in '*Prevent-Repair-Regenerate*' *KISS It Better – The Cure for Common Ankle Sprains*.

Unless you can ensure that joint pressure volume and alignment are restored and ligament integrity regained, which may take 6 to 8 weeks of even the best exercise rehabilitation based optimal

loading, you really can't be sending people back to work or play, at least not using traditional methods. That isn't a secret at all and that is rarely if ever disclosed and directly affects your long-term ankle health. It is called 'cumulative trauma'. This is where one of the many comparisons to concussion comes into play because we used to say concussions were just part of sport and now, we consider the long-term harm and mitigate it. Remember ankle sprains are not just part of sport they're part of a business which uses sport.

(6.5 mins without discussing the ASAM protocol table)

## The Ankle Rehab Paradox

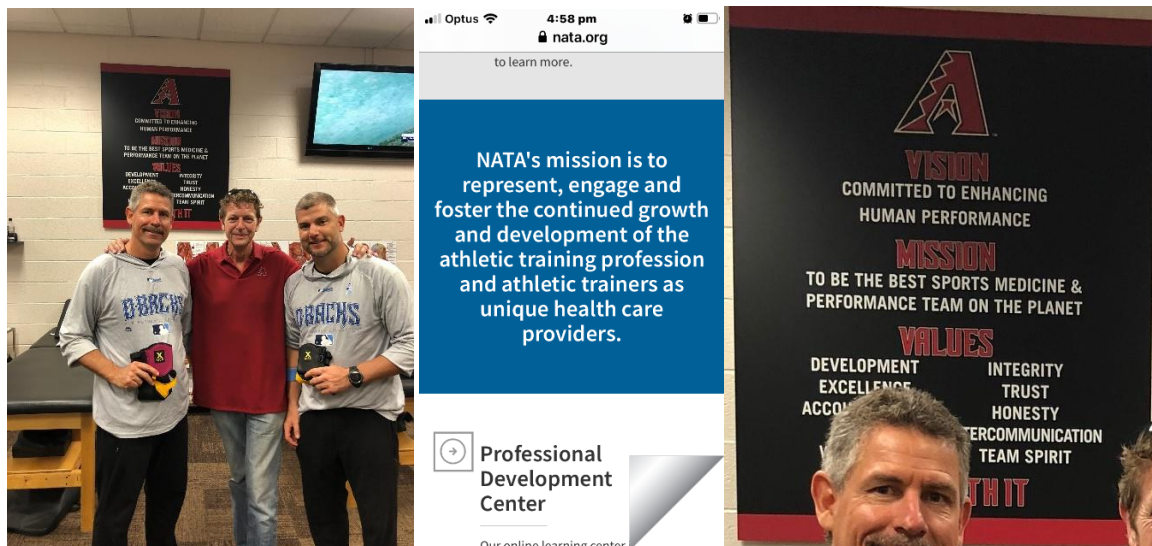
*“Immobilization, Evolution and Rehabilitation contradictions*

*Put simply, immobilization is inconsistent with modern practice of early mobilization after repair in the knee, does not make ‘evolutionary’ sense because you would have died of starvation or become prey, and then there is rehabilitation. LAS rehab focuses on retraining time and STJ ROM dependent responses, and taping or restrictive bracing is avoided, because of their known effects on both. Then on return to play RTP, either or both are often employed, potentially negating the time and range dependent retraining?” Ref Journal Regenerative Biology and Medicine*

I call it the rehab paradox and it can be received with great defense or as Arizona Diamondbacks Major League Baseball head trainer Ken Crenshaw put it

*“I can't believe I've been so stupid”.*

Perhaps the medical team's motto and goals being excellence and athlete focused as opposed to the motto and goals of the National Athletic Trainers Association NATA for example, to perpetuate the field of athletic training, is the key?



Ankle sprain risk in Major League Baseball while significant is nowhere near sports like NBA basketball so of course I welcomed the opportunity to send Ken more 'KiSSes' for his colleague at the Phoenix Suns.

How your body is designed to move, run, jump and change direction for survival, while at the same time protecting itself, is either made irrelevant or at least compromised when you apply devices and tape that change any of these survival functions on normal functioning humans. When you think about it, it's just nonsensical, using tape and ill-conceived braces on injured ankle ligaments, because in a medico legal sense, as you have seen from the exercises above, it's not hard to know better.

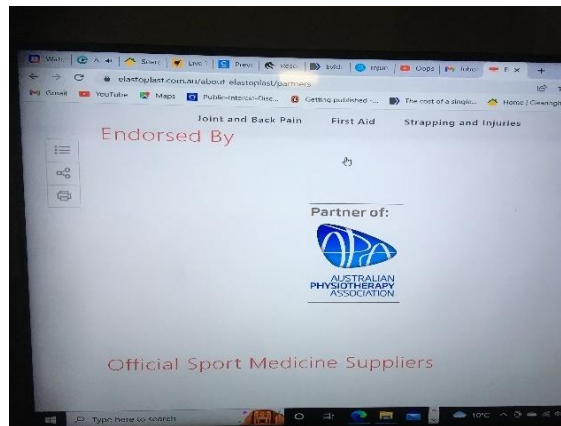
The ankle sprain motion in itself is a good thing, which is why understanding and ‘harnessing’ the motion makes much more sense than trying to restrict it from functioning. You wouldn't try to lock up one axis of a Universal Joint in the drive train of your car and expect it to function, why would you expect it to do anything but harm to an injured kid's ankle.

Ankle sprains are not just part of sports! They are a \$ billion plus industry.

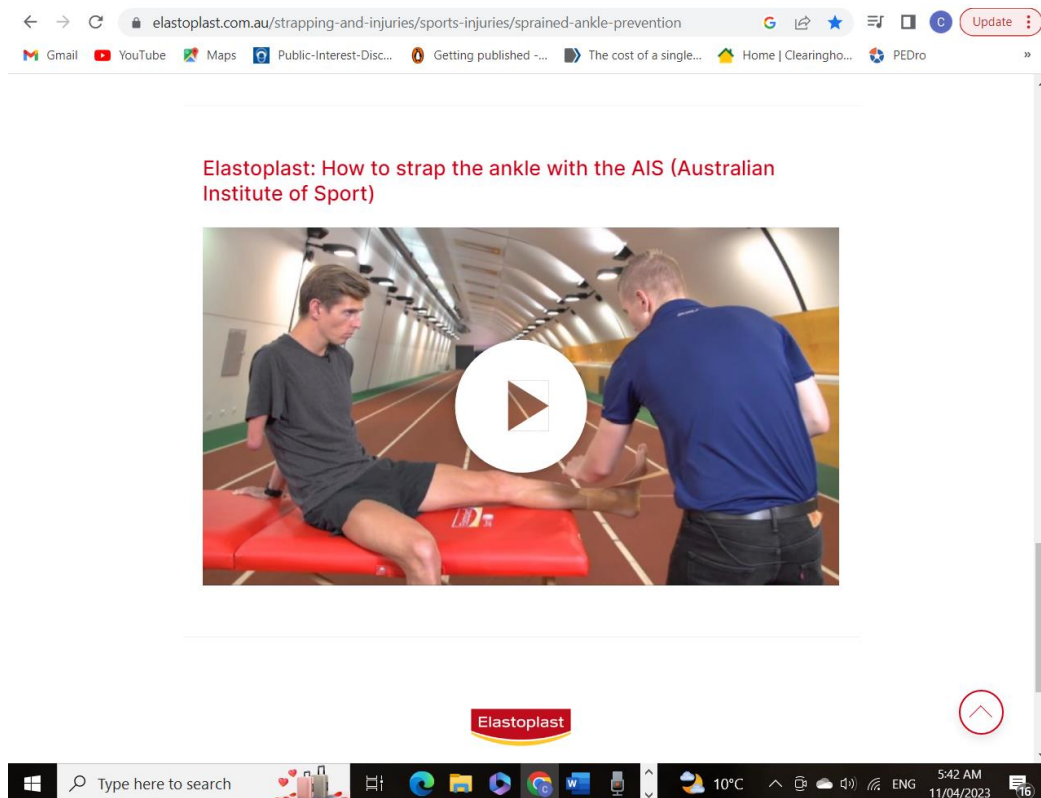
3mins

### Episode 3 The Game (21+minutes)

What is the 'game'? The game is selling ankle tape by sponsoring elite sports, Physiotherapy, Sports Medicine, and Athletic Training, effectively 'buying' yours and professional athletes rights to a safe sporting environment or workplace. Physiotherapy has been elevated to a level of trust where the 'Safety Decision' regarding prevention, is all too willingly deferred to those with the most to gain from injury and tape sales themselves. Without any independent risk assessment and mitigation process, regulation or standard consistent with any other sports related safety or rehabilitation risk or equipment, those whose only motive is to profit from harm, even to children by imitation, operate with impunity.



Elastoplast Partner Australian Physiotherapy Association and is this an endorsement of 'tape' by the Federal Government by proxy courtesy of an undisclosed exclusive commercial relationship between the AIS and Big Tape?



Indeed, in some cases they are officially sanctioned by what appear at least to be independent statutory authorities or in some cases government authorities. Unbelievable right?!

At over \$100 billion a year, ankle sprains no doubt present a business opportunity if you are a physiotherapist or athletic trainer, and let me be clear, I'm not against physiotherapy in general, in fact I think, like you, they and the leagues have all been had, except it's only physiotherapy and the leagues getting the sugar, the rest of us are just getting the pain, physically and financially, sometimes emotionally, sometimes lifelong. But hey we've always got our physiotherapist to rely on. "I've got their number here; they sponsor my daughters netball club".



It's just the producers of tape have, through sponsorship, financial incentive and restriction of exposure to alternatives, used you as they have the rest of us, for profit. Physiotherapy and physiotherapists or athletic trainers can be part of the solution and in fact KiSS systems were designed originally for physiotherapy and athletic trainers.

Perhaps I was naive at first, and then I met with the owners of Elastoplast and Donjoy bracing as well as Kurt Mueller from Mueller sports medicine. It was clear, I was incredibly naive to think any of the largest brace and tape manufacturers in the world wanted to create a brace that replaced tape or eliminated the injury as a source of revenue. Then there's the fact that this method completely contradicts, quite logically and with evidence, the premise of inversion restriction upon which those systems are based. A system or approach that has barely changed or evolved in over 70 years, that in 2019 76ers Australian trained physiotherapist Scott Epsley looked me in the eye and says "works". Well, it didn't work for Jimmy Butler, as the doctor who had invited me to Philadelphia texted when Jimmy sprained his ankle in their final, down to the wire playoff game that year.

While there are other influences on professional sports team physiotherapists such as ego, status and reputation, this examples best, a career exposed to tape and codependency upon taping and injury, can blinker, even blind safety decision makers, even when the stakes are this high and normally insatiable quest for innovation and advantage is otherwise commonplace.

It's almost inconceivable in its audacity, effective indoctrination and extent of harm. What will lead to Safer Sport, improved rehabilitation and quality of life outcomes and hopefully compensation for all that could have been prevented, through the largest single class action 'sports medicine' has ever seen? The question is who is responsible? I think that's probably still unclear, and a lot depends on what people do or did when they knew there was a problem, and most of you may be learning this for the first time now.

Some ideas of what you could do are in the later episodes, and I am always open to, and looking to facilitate ways to connect with and empower the true stakeholders in the ankle sprain industry, you and those who you may have duty of care or responsibility for. You won't see physiotherapy and athletic trainers in my approach to safer sport and effective rehab or in the remedy we need in order to make change, because after 25 years, what I am selling, prevention and shorter effective rehab, simply isn't a good business proposition. My only hope is that I can empower you to ask the right questions and choose logical and safe solutions, and provide the prescription for physiotherapists and ATs to follow, at your request, just as they do for US Ankle Surgeons. Perhaps one day they will develop something similar to a Hippocratic Oath as an 'Allied Health Industry' and realize their duty of care and liability for your safety and short- and long-term health. After all, under whose watch has all this happened, and ankle sprains remain the most common and costly joint injury on the planet, with no evidence that any physio method has ever repaired ankle ligament to its preinjury state, none!?

6.10 mins

### Accountability

Who is responsible, legally? Is it tape companies or the Owners of professional teams, or the Leagues? Perhaps the Physiotherapy and Athletic Training associations or the trainers and physios at the point of application if basic rights to a safe sport workplace was and is their responsibility? Is it an accident, like ankle sprains, that any of these organisations could have individually made sport safer on their own, but haven't, and they all share a financial arrangement? Maybe that is just a coincidence or an 'accident', like your daughter's ankle sprain, just waiting to happen because as discussed there are no rules, regulations, tests or standards to hold anyone to account, yet.

### Big Tape

I'm genuinely not sure myself, so let's start with the tape and brace companies. The tape companies know that their products are going to be used as PPE and during rehabilitation on children and in the sports workplace. They know that this product and system has a significant failure rate and consequence yet have never evolved to make them safer. By comparison helmet manufacturers in American Football at least continued to try and get safer, but they also had 'bought' the rights to athletes safety, over-riding Athletes rights to safe work PPE, a move for which the NFL would eventually have to pay \$1B for. Sound familiar?



So, did tape manufacturers neglect the end consumer in some way? Because there are several ways they could have known or did directly know of safer alternatives, however a solution lay in a combined system that would replace tape and exiting braces.

B

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Smith & Nephew DonJoy Inc.

2777 Loker Avenue West  
Carlsbad, CA 92008-6601 U.S.A.  
Telephone: (619) 438-9091  
Toll-free: (800) 336-5690  
Telefax: (619) 438-3210

**Smith+Nephew**

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October 15, 1993

Craig Hubbard  
7 Moruya Drive  
N.S.W. 2444

Dear Mr. Hubbard:

Thank you very much for giving Smith & Nephew DonJoy Inc. the opportunity to review your patented ankle brace idea. Your idea was presented to our Product Development Committee for evaluation. Given our current product development schedule and direction, we have decided not to pursue your idea at this time.

We are, however, favorably impressed by your work and in the hands of a company able to maximize the potential for this product, it could be quite successful.

Please be assured that we have not abandoned this idea. The information you provided to us will be kept on file. In the event that DonJoy expands its product line to accommodate products such as yours, we will be in contact.

We wish you success in the pursuit of your idea and trust that you will allow us the opportunity to evaluate any product ideas you have in the future. If we can be of any help, please do not hesitate to contact us. Once again, thank you for considering Smith & Nephew DonJoy.

Best regards,



Steve J. Oordt  
Soft Bracing Product Manager



You will see I visited Smith and Nephew DonJoy in Carlsbad in 1992 with the referral arranged by Sydney ankle surgeons, through medical joint surgery company Richards, also owned by Smith and Nephew, as is Elastoplast. It was very clear from the documents they acknowledge they retained, which were a full copy of my 1990 thesis *Considerations for the Design of the Ideal Ankle Orthosis*<sup>12</sup> and recently granted US Patent titled *An Ankle Brace*<sup>13</sup>, (they were “impressed by”), there was evidence restriction was doing harm on injured ankles and there were safer systems than tape, they just weren't able to “maximize the potential of this product”.

I don't think my systems will “expand its product line”, considering I was told they had consulted the Head Office of Smith and Nephew, not just their Product Development Committee, because after the first day it was clear their head Athletic Trainer didn't understand what I was talking about. I reminded them of the Ankle surgeons who had referred me. You would or possibly should delete product lines, even some uses of tape itself in their subsidiary Elastoplast, if you want to maximise the potential. Why I thought they, a global medical company, would do the right thing I really can't explain. In Europe they have now got bigger, with a merger with tape co Beiersdorf, and you will see their influence in the UK and Europe as BSN.

Kurt Mueller from Mueller Sports Medicine said it best when I met him in the early 90s at a trade fair, who after listening carefully and understanding the proposition replied, “It's obviously a great idea. A little hard to explain, but why would I sell this when I already sell a shit load of these and a shit load of this”. Kurt was referring to the exhibitor stand behind him of Mueller tape and brace products.

I also met with Cramer, Ossur, Otto Bock, Bauerfiend and more, and although some of these didn't have interest in tape, they did have a range of existing products which sell practically without effort. They are also based on restriction of the subtalar joint and lack Medical Intent. To introduce a system that makes sense such as KiSS systems, you would need to acknowledge that your other systems that are currently selling without effort, are in fact less safe or lack Medical Intent.

So, what did Big Tape do over the last 25-30 years? Well, it seems they've deferred responsibility for tape use to athletic trainers and physiotherapists. Now whether that's by empowering them through sponsorship, kudos and certification, effectively ‘Conditioning’ them, that's for others to decide. Next let's look at the physios and athletic trainers.

5 mins

### Physiotherapists and Athletic Trainers

Whether they like it or not, Athletic Trainers (in most cases in the USA) and Physiotherapists (in Australasia and Europe) are, in most sporting situations, making the Safety Decision on behalf of you, your children, the club, and following on from the last point, possibly the tape companies and brace companies themselves. I was surprised that whilst ankle taping and bracing in a sports workplace is clearly workplace Personal Protective Equipment PPE, the lack of understanding, or even active resistance to that concept, Safety, has been the major hurdle to overcome.

Indeed, on numerous occasions in the US, introductions to NBA, MLB and Division One College team medical facilities were conditional on me not mentioning the word ‘safety’. I had a private moment with one of the doctors at an NBA team while there and asked if he thought it was a safety issue to which he replied, “It is 100% about safety”. Thing is, he and former FCB as head physician, who I spent considerable time with on his first day, aren't the ‘safety decision’ makers. The former of these

doctors had expressed “25 % of NBA players will sprain their ankle and miss at least one game this season” during our discussion for my visit. Despite travelling from the other side of the world by invitation, the physiotherapy team at the 76ers could only ‘afford’ about 7-8 minutes to see what an ankle surgeon will devote an hour to, and their doctors had spent considerable time considering.



Physios and ATs know taping ankles has a significant failure rate but somehow, they become conditioned to accepting that, (76ers Physio “we have a system that works”) and rarely if ever did they disclose that when you stretch or tear your ankle ligaments, nothing they do is going to heal or repair it to preinjury state. Such that PTAOA post traumatic ankle osteoarthritis is a given (workplace) outcome of this ‘accident’.

Now they have accepted funding, kudos and certification from the tape companies, and many of them are paid to promote, advocate and demonstrate, ‘conditioning’ and ‘indoctrinating’ others in the practice of taping, so it is easy to see how you could become incredibly resistant to alternatives. And the national athletic trainer's associations and physiotherapy associations who could be conducting independent reviews of safety and medical outcomes, simply don't. In many cases the best review you can get of a product is a paid endorsement. Physiotherapy and athletic training have taken money from the tape companies, they haven't assessed and mitigated risk while they're in the safety decision making position (Safety isn't in any known professional Charter) and haven't disclosed the long-term harm. It is classic ‘conditioning’ to accept injury and not see or consider the consequence of their actions or they're just following ‘orders’, or protocols laid down by their employer in the workplace; isn't it the employer's responsibility to consider workplace health and safety? After all who is the ‘Boss’?

### Team Owners

So, I'm a team owner and I employ athletes, and I also employ athletic trainers and physiotherapists with a resume and portfolio of taping techniques and a degree in Athletic Training or Physiotherapy from a reputable university. And they are also full members and accredited by the national association, trusted bodies with an extensive history of protecting and rehabilitating ankle injuries; aren't they? We even have an income item ‘tape sponsorship’, money, where we get paid to use the product anyway so there's really no reason to consider an alternative because we already trust in and pay for the best products and advice. Or should we just have applied a consistent workplace health and safety risk assessment and mitigation process like any other workplace hazard instead of trusting the ‘professionals’? Short answer is you probably should have done both, applied a consistent risk assessment process, and independent of your employee's safety, consider whether a

tape sponsor might still be possible for the 101 other uses for tape except as PPE or on Children's ankles.

### Professional Sports Leagues

The professional leagues, where most of our favorite teams and athletes work, make a living and take incredible risks during a very short 'work' window in time which is a professional athlete working career, did what? The leagues have been taking sponsorship money from tape companies for decades such that any team has a guaranteed income source from the leagues major sponsor. They failed to provide any consistent oversight of the impact of that sponsorship on workplace safety and defer responsibility to the individual teams, perhaps? What duty of care do the leagues have when they accept and recommend a sponsorship as part of their deal for their employees, not the athletes; the teams work for the leagues. In the end none of these organizations are benevolent, they're all in it for the money, using sport as the source of revenue. So is it actually the responsibility of regulators of safety and sports equipment to have done something? Or like helmets and concussion, these things come from documented known harm and litigation, rather than an active understanding of the risks and safety of populations.

There is a role for regulation, testing and standards, because like Big Tobacco where they knew the harm consequence long before it was uncovered, when Big Tape could have, and I suspect did recognize the problem in one way or another, they did nothing but potentially defer and delegate responsibility and, likely, 'rigged the market'. It simply reiterates the fact that sport and ankle injuries are not about you and your long-term safety and health, it's all about the money. So yes, regulators could have 'seen' had they remembered the past and been actively looking, but with nobody waving a 'red flag' that anything was wrong until the IAC published the "significant Global Health burden" and I started speaking out, ankle sprains 'cost' was very well 'hidden'.

Considering what's to lose financially by preventing the common ankle sprain, you can see why nobody within the system really thought it was broken. Now there is a focus by 'allied health professionals' on concussion and ACL injuries, avoiding the most common and unsolved ankle sprain, a distraction Penn and Teller would find joy in. Bottom line for me is that physiotherapists and athletic trainers knew this was PPE and they couldn't rehab the ankle ligaments, yet happily accepted the Safety Decision, Duty of Care and workplace safety responsibility and the money. That combined with, without exception being the most resistant and oppositional group to safer ankle systems and more efficient rehab, makes them in my view, the most responsible for the harm consequence, at least morally. There is obviously 'conditioning' but I hope this book will actually be embraced by both ATs and Physios. I can still dream, can't I?

Few leagues and teams get the tape free but as a Physio defending pro athlete (self-alleged) on Twitter, it is 'free' to him, so why would he pay for an expensive system like mine? I must send him a link to buy the book because that is the mentality that does the harm as much as anything; it is an effective model for exploitation, it just ignores 'his' rights to a safe workplace, lacks a consistent risk assessment and mitigation process like other hazards and he is too trusting and conditioned to know any different and like Physios I would be wasting my time trying to reason with them. Then you and your kids see him and imitate him, right down to a lifelong injury or disability because everyone wants to be like 'Luc'? I wrote to Luc Longley to see if he would discuss his retirement due to ankle injuries and help with advocating for change. Even though you know they read it, like Lauren Jackson who nearly tried them before re-entering the National program, nobody really wants to 'buck the

system' that pays or feeds them even though they can do so much good or in other words, prevent so much harm, especially Lauren.

This aside I have heard nearly every excuse under the sun to continue doing what physios and trainers are doing now which is known as 'Confirmation Bias', where people only look for reasons to continue to believe what they do and exclude evidence to the contrary. Thing is, by making the research I propose accessible and open source, reviewable and repeatable, you and I don't need their help to show safety, mobilisation or repair, we are just going to do it and let you decide, without filters or BS.

So who will pay? Unless we do something to demand and implement change, you and your kids and your favourite athletes will continue to pay for it all financially and physically, sometimes lifelong, and that, in my mind, is just wrong on so many levels.

10.30 mins

Episode 4 Research.

There is a lot we can do to unwrap Big Tape, starting with meaningful research instead of what Physios currently being created to continue to sell a method(s) that fail consistently and have never been shown to repair ligaments or reduce PTAOA. I developed our own mechanical 'crash tests', and methods to examine the post intervention repair of ligament tissue and restoration of joint alignment and integrity and intend to have you participate in the research. Our research will be your research which will be opensource and free to anybody because another problem with university-based research is that they have incentives (including financial) to publish in Sports or Medical Journals so people like you and me, who aren't subscribers to the plethora of Journals that Universities are, never see the research and rely on 'filtered' and 'whitewashed' versions of reality. The reality is tainted with BS as delivered as trained or 'conditioned', by Physios and Trainers by design, encouraged and supported by their Professional associations and University Faculties intertwined and co-dependent on each other.

*"scientific evidence shows them to be beneficial." NFL Head Athletic Trainer*

This is an email trail with a Team Doctor NFL and US Soccer regarding introduction of KiSS X to Tottenham FC via Physiotherapist Stuart Campbell. Dr \*\*\*\*\* had contacted me after I had listed that I was looking for people or institutions to trial the KiSS X on the AMA American Medical Association Physician Innovation Network website. After several discussions I sent him a pair in his size and a couple of extras for 'Ron' and when he received them, we did a zoom fitting session. It was this conversation that helped get the system to be trialled at Tottenham for "he" Harry Kane but not at the NFL team.

*I have not tried it for soccer yet as I am recovering from a muscle strain. That said, I would not discourage him from trying it as it seems status quo is not working very well for them. What does he have to lose?*

*Thanks \*\*\*\*, all the best with those ventures. So you like the braces? Do you ever think I will get them into the NFL?*

*Sat, Mar 7, 2020, 8:07 AM*

*I like the idea of the braces. Our head athletic trainer does not want to try them unless the scientific evidence shows them to be beneficial. Will keep you posted.*

*Sat, Mar 7, 2020, 10:15 AM*

*Thanks. Not the first time I have heard that. In that lies the problem when ankle surgeons can prescribe them now by self evaluation, I wonder who I am supposed to create what "scientific evidence" for and why?*

Scientific evidence they ask? Well, I ask where the scientific evidence is that taping, or any bracing is safe, or that any physio or AT method has ever repaired a damaged or ruptured ankle ligament! I

could use the same protocol that supposedly proves ankle taping and bracing prevents injury, where one group wears one method like tape and another nothing, and count and grade the injuries, and show that wearing shoe boxes on your feet also 'prevents' ankle sprains. That is the main model proposed and used as 'evidence' of preventing ankle sprains, when it is also evidence of not preventing severe sprains or about 50% of common sprains.



I call it 'shoe box testing' and as well as being an absurd way to test safety equipment, I consider it highly unethical because you are using often children as Human Guinea Pigs, knowing at least 50% will probably get injured over a season. It is just wrong because unless you know it is safe, i.e., mechanical testing, how can you possibly get it through ethics? What could possibly make testing of safety equipment ethical to test on humans, often children, that is known to fail at all, let alone 50%+ of the time?

Just another example of the perversions of the scientific method and Universities dependence on funding and publication to enable a bad product to continue to be marketed. Only an independent testing lab, like they already have, NOCSAE in the US, that tests all kinds of safety equipment from shin pads to helmets, just not the systems responsible for the greatest harm by cost and pain on the planet. Accident?

University research based in Physiotherapy or Athletic Training Faculties is where the so called evidence is currently being gathered or manufactured perhaps, so after reaching out to most Australian Universities, Sydney University was the only one to actually invest their time. They are currently conducting a trial of our KiSS X Safety and Exercise Rehabilitation system verses an ankle brace known as Aircast which is from the same 'stable' as Elastoplast and owned by Global medical company Smith & Nephew. The study will compare KiSS X, Aircast and nothing at all on both a normal (uninjured) group and a group with CAI or chronic ankle instability.

There are very few studies of the effects of braces on good ankles function and performance so their study will be in one sense breaking new ground; ground perhaps upon which other physios fear to tread? My prediction, if fitted correctly, is that KiSS X will improve all measures of performance on CAI patients, whilst having nil or a slightly performance enhancing effect on good ankles. This is

because once 'set' correctly, you can't feel the KiSS X and when the stored mechanical resistance (energy) at the limit of range of motion is 'returned' to you during normal cutting and jumping, you will see why the Head of Performance Research at the 76ers, Dr David Martin suggested it may also reduce fatigue.

Big Tape has an advantage here, as would any large corporate entity in that they can fund pretty much as much 'research' or 'evidence' as they like, and Universities in most cases happy to get the money and associated Kudos. So whether you have money, and how much, influences what gets researched and what gets 'seen' when in my view the medical or safety aspects of devices used as PPE and as Medical Devices should be independently tested and validated, to a standard protocol. Research should not be able to be 'bought' and used to manufacture propaganda for anybody's commercial interests let alone Global Medical Company's.

Is there a role for Independent testing and standards?

Yes please, independent testing and standards then maybe a fee as per US NOCSAE, the testing and rating agency that independently tests all kinds of US sports safety equipment, except ankle PPE. That would be great, but a long-term proposition we need to work towards and advocate for, so in the meantime I developed our own 'crash test' and used Sydney University Biodex to quantify KiSS X capacity to resist and absorb the total energy of an ankle sprain while maintaining a normal range of motion. These types of mechanical tests, like being able to safely attach a 5 kg bowling ball and drop it, are necessary for me to know I am providing a safe system for you, your child or the most elite athlete in the world. I know it is safer than any other system I am aware of, so can in good conscience recommend it to you and for children as PPE.

How is University Research going to stay relevant? At least to the 'Stakeholders', because *they* do have the ear of the organisations that matter, like the IOC and the IAC and the major leagues like FIFA but via the perspective and research of physios or ATs. And where did they get the money for that? It appears to be a closed loop or what might be called a Silo, where the views and interests are contained within and working for their own means and the rest of us aren't included. And this is what is currently influencing and endorsing those with duty of care over you, which reminds me of the saying, directed at universities as a business verses trusted institutions of integrity, 'If you aren't part of the solution, you are part of the problem'.

And then who cares about research by trusted universities anyway, when you can literally just change bits and omit the 1973 date, altering its meaning entirely and republish it as the ONLY 'evidence' your system works? Like this bastardisation of Garrick and Requa's 1973 article as the only 'evidence' at the Australian Elastoplast website. But they do have a link to a video of How to Tape for Prevention at the AIS to reassure you it is all legit.

Elastoplast don't even reference or when contacted, have a copy of, or directions to the original. I quoted the original in 1990 as evidence for not taping,

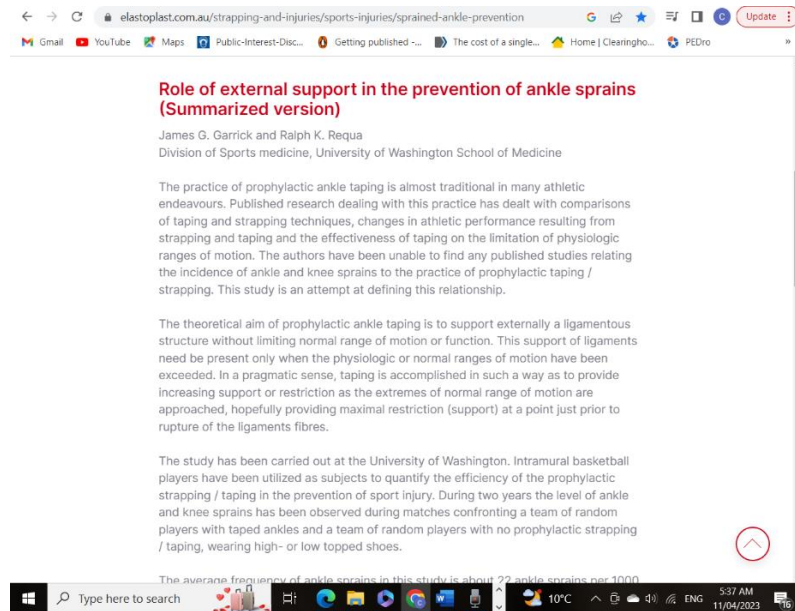
The correct reference is **Garrick JG, Requa RK: Role of external support in the prevention of ankle sprains. Journal of Medicine Science Sports and Exercise 5; Pages 200-203. 1973**

I am not surprised they have not quoted another 1973 article, **The case against ankle taping. Ferguson AB. Journal Sports Medicine Jan/Feb Pages 46-47. 1973** who is the first I know of to call the ankle sprain motion a 'safety valve' for the lower limb. Worth a read if you can access or find either.



I like this “hopefully providing maximal restriction (support)” because what you need when investing in yours or your child’s safety is ‘hope’ not honesty, relevant research and standards!

<https://www.elastoplast.com.au/strapping-and-injuries/sports-injuries/sprained-ankle-prevention>



Remember nobody has ever checked the outcome of rehab, and on the odd occasion existing rehab has, there is no repair of ligaments, none, and that is the primary goal of my systems. Makes me wonder what the goals or medical intent is of other systems like the Aircast? Oh wait, they don't claim to do anything because their use is based on Medical Advice, the Physio or Doctors advice and not written on the box.



I will need to produce more evidence regarding safety and quality of ligament repair of some description, and it is great that Sydney University is conducting this small but relevant comparative trial with one of the largest selling ankle braces on the planet on their own. I want to know from you, after reading this and understanding the KiSS approach, what research I should conduct and fundraise for, or in fact WHO I am doing it for besides Ankle Surgeons? I have come to realise that

producing evidence for Physiotherapy is futile unless I can prove it makes more money than tape and taping, reselling cheap foreign made braces and a week's bookings Monday morning from the weekends sport ankle sprains, which they often Sponsor, but fail in their duty of care to prevent.

In summary, there's no evidence that any physiotherapy method has ever repaired an elongated/stretched or torn ligament. There is also no evidence that any rehabilitation method for lateral ankle sprains can reduce the incidence and ever-increasing early onset of post traumatic ankle osteo-arthritis PTAOA. And no method appears to prevent severe sprains and at best only reduce common sprains by around 50% so the only way I can see to demonstrate what is important is to develop tests to determine how 'safe' is it? Impact Safety testing aka crash tests and standards.

Ideally, we would submit our systems to a University or independent lab with similar quantitative measures to a vehicle crash test and a 'crash test dummy'. In theory, again I could raise money and pay for it to be developed, but I already have a job that keeps me more than busy and it really isn't my responsibility, is it? Maybe it is part of what I signed on for when I refused to accept the current paradigm based on perpetuating ankle sprains. The US based independent testing agency NOCSAE has said they would consider it with US based collaboration, and change must start somewhere. I would like to see one of the owners or executives of these makers, sellers or advocates for tape put their system on and do the 'crash test' but none of them even want to call it safety equipment, and definitely never call it PPE. But it is, and pretending it isn't, evidences their guilt in this area of sport and medicine.

Future research directions – Stakeholder driven

I don't see how Universities can be relevant when I can get you to undertake the same tests at home and record them, before and after, even measure and compare them with some current and developing stability and gait measuring Apps and gadgets. Make it free for anyone with software or a brain to analyse the video or responses, and open for anyone to see. Real people, in real time and we can then monitor and prescribe, whilst functionally supporting and exercising your ankle ligaments in a shortened position to stimulate regrowth, all at home or wherever you are.

Basically, all we want to know is does it do good and how safe is it? These topics will be explored in more detail in *Prevent-Repair-Regenerate*.

**How safe is it?** You can only do this with engineering and mechanical testing, just like other safety equipment, not tested on humans first. You need to know what Safety Standards apply to Ankle PPE, who tests it and how as now there are none.

**What is the effect of ankle PPE on 'good' ankles?** It is pretty simple because all you need to do is compare methods to none on good ankles, which is what Sydney University is doing. You want to know does it change lower limb biomechanics? Does it affect balance and stability? This may be through interference due to external stimuli affecting natural reflex and postural adjustments and observed on video, force plate or instrumented treadmill and EMG over the muscle bodies of the lower limb. Conducting a battery of tests that relate to stability or performance before and after application on good ankles is also useful when you want to determine the affect of systems on acute sprains or CAI.

**What is the effect of ankle tape and bracing on RTP post injury/rehabilitation?** Have the ligaments been repaired and is the tibiotalar joint intact? You must know these things before you can exclude cumulative trauma and while ever a follow up MRI, which can reveal healing if directed properly, is considered an unnecessary medical procedure you will never know. Do physios tell you they can't repair your ligaments or do they simply not know or worse, care? With the enormous cost and pain consequence from not repairing ankle ligaments, surely there is a case for follow-up scans for medico-legal purposes in professional sport at least.

**What is the Acute sprain management protocol that considers cumulative trauma?**

Since there is no protocol that considers PTAOA and cumulative trauma due to rupture of the tibiotalar synovial joint, this needs to be considered initially and BEFORE returning someone to play. There are lots of pressures to play, all pretty much looking for a reason to say "go", whether it be the athlete, the medical team who is measured on injury rates, the Club or team owner, the Fans of course. In the absence of an independent and objective tool and scans that take the emotion completely out of the decision-making process, tape and needles are often the option and less than 100% is Okay? There is no way a stretched or torn ligament or ruptured or leaking capsule will heal even with an effective exercise rehab and KiSS support mechanism, there just isn't time.

And what we are doing with tape that restricts ankle roll, creates stress on the injured ligaments, and the inability to maintain the even loading of the cartilage, predisposes you to PTAOA long term. IF athletes were sidelined for the correct amount of time to ensure and image repair you might just find the team Owners, The Athletes and Fans demand the injury be prevented more effectively. Right now 'Ankle Sprains are just a part of Sport' but I remember that concussion was also once just a part of sport and the pressure to play and achieve pushed the long-term consequences further down the track.

Argentine Football legend Gabrielle Batistuta or Batigol was unable to walk to the bathroom soon after retirement due to ankle pain and soon after had a TAR or Total Ankle Replacement) and when asked if he had known, would he do it again he replied “No.” Isokinetic FIFA Medical Conference Paper.

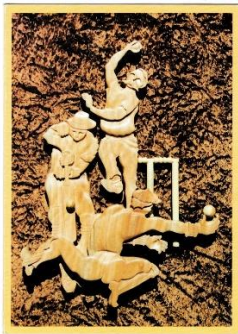


## Episode 5 The road to Ankle PPE

Elite athletes and Player associations.

In the recent decades, Physios have been elevated to the position of 'Safety decision maker' in professional sports both here and in many other countries, or an Athletic Trainer may make the safety decision on behalf of everyone. Doctors and especially the athletes themselves hardly ever get a chance to see or experience anything different, and since they are still using the anachronism known as 'Modern ankle taping' and refusing alternatives I don't think it is a very good or even medico legal position. Probably the best evidence is obtained from people you know sharing their experience who don't have any other agenda but you and your children's safety, but not from paid endorsement by 'Influencers'.

You can see from Chris Goulding as Elastoplast Ambassador that you can 'buy' athletes safety and their advocacy or perhaps silence, so you can be sure that I will never pay for endorsement, even when people like Ian Healy or Tim Horan use them and write a nice thank you card or say "It saved me" respectively, both wanted to be paid, \$10,000 I think Ian Healy's manager mentioned "Otherwise he will say he didn't use it."



Dear John Sage Pty Ltd,  
What a lovely gesture  
to put me in the paper to thank  
you for the thousands of dollars  
of taping on a thumb/wrist brace.  
Just thought you may return from  
Paris then. My message of it was  
in relation to limit movement over  
the shoulder joint (over  
working!) of the arm so ensure that  
if such work is required for  
the rest of your life, you will  
be supported by someone like your-  
self as well as to find such  
assistance. You are the spirit here  
that of what you're returning

from the shoulder, so it has  
helped me for months that I  
didn't realize earlier. Also now  
got a sense of what to wear  
and hope it'll be regular  
and happy!

Anyway many thanks for  
your assistance once again, it  
really is a case appreciated.

Yours sincerely  
Ian Healy

## Waltzing into the World Cup with a Matilda moment

By CRAIG VAUGHAN

A MATILDA moment can happen anywhere — in the middle of a Munich beer hall, walking down the Champs Elysees in Paris, or on a rugby field in New Zealand.

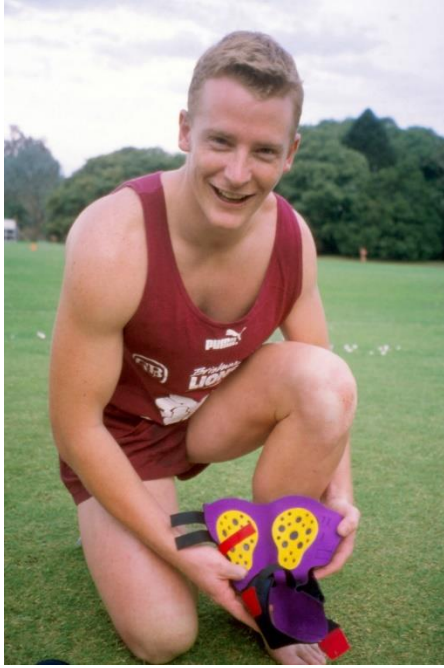
It is the moment when hearing our national song can send tingles up the spine — no matter where in the world they may be.

Wallaby Tim Horan has a favourite Waltzing Matilda moment.



Tim Horan

AFL legend Michael Voss, back in the day when the strapper was in charge of safety, appreciated so much what the prototype KISS X had done to aid his recovery, using it to rehabilitate after the injury, that he did a photo shoot for us.



**Bears consider special protective ankle cast for 50-50 Voss**

**BREKIDAN** A specialist orthopedic surgeon has designed a special protective ankle cast for 50-50 Voss, the Australian international, to wear during his recovery from a serious injury sustained in a game against the All Blacks.

The cast, which is made of a lightweight material, is designed to provide support and stability to the ankle while allowing for some movement. It is expected that Voss will be able to return to the field of play in a few weeks.

Voss, who has been a key player for Australia, sustained the injury during a game in Sydney. The injury was severe enough to require surgery and a long period of rehabilitation.

The new cast is a significant improvement on the traditional plaster cast, which is heavy and restricts movement. It is hoped that this will help Voss to recover more quickly and return to the field of play sooner.

The cast is made of a special material that is designed to provide support and stability to the ankle while allowing for some movement. It is expected that Voss will be able to return to the field of play in a few weeks.

Unfortunately, the team Doctor wouldn't let him wear it, despite Michael wanting to wear it for the 'do or die' final, and insisted he be taped, and in the end he couldn't play at all. So he kept it and used it to rehab himself, using it to play squash in the weeks following.

Regulators. Political, Sports, Consumer Safety and Children's advocacy groups.

Ankle sprains that occur to employees in the professional sport workplace are not treated or reported as workplace injuries. On numerous occasions I have asked to connect with the WH&S person in professional sports and have my system submitted for consideration under their Risk Assessment protocol for this workplace hazard. "The what for the what now? You need to go through the Physio" is the response because ankle sprains are treated differently and exempt from any WH&S Risk assessment that any other risk will go through. Professional sports teams have other employees besides athletes and both are subject to numerous consistent WH&S like any other workplace, just not ankles, their greatest risk and cost.

When we first released the KISS X in 2018 at Camp Nou FCB I spoke of athletes as employees and braces and tape as PPE or safety equipment, I received feedback such as "I have never heard athletes spoken about as employees before." Sports employers need a WH&S RA treating pro athletes like every other employee and LAS as a workplace hazard and accident, which you can use to inform your own organisation or club. By doing this we have covered the short-term risk of LAS and through the ASAM protocol we consider and mitigate the long-term risks as well.

When there are safety standards, then you or a professional team can select PPE with confidence. What you can't do is sell that PPE selection to a sponsor and ignore workplace safety.

Product Safety Australia, State based Workplace Health and Safety Regulators, Therapeutic Goods Association TGA, ACCC, Sports Integrity Australia, Choice Magazine, CSIRO, Standards Australia, Australian Institute of Sport, State and Federal Ministers of Sport and Health are just some of those capable of looking objectively at the evidence; Independent of Australian Physiotherapy Association and those being paid to maintain the status quo, but instead they often defer to, consult or rely blindly on the Australian Physiotherapy Association to be ethical, unbiased and benevolent when they are only for Physiotherapy, not you.

All these organisations should now at least be aware of the issue through direct advocacy and contact and it is on the record. Either it is ignored completely such as the AIS, or like Choice Magazine who at least acknowledge these systems are PPE, say they don't examine or test ankle systems or braces. They do acknowledge that there is no model or 'test' to apply, which was my intention, to highlight to them as a first step that these are unregulated safety equipment. If more people ask to know which ones are 'safe' or report 'unsafe' systems when they fail like taping to Product Safety Australia, someone will eventually do something to protect you and your children.

If enough people ask, perhaps they will look at the single largest health risk posed to children in Australia in the same context as they do other health and safety products they review, like playground equipment and bicycle helmets. The costs are just hidden, and the point of this book is to enable you to know the problem and arm you with facts and ideas to bring about change. The more letters, queries and complaints these organisations receive, the more attention this will get, and the safer Australian Sport in particular will become. This is an example of contacts so far and responses (if any) such as this from a West Coast Fever the Professional Netball teams' executive.

*Hi Craig,*

*thank you for the information. Currently West Coast Fever is under agreement with Elastoplast so this is not an option for us to explore. My only feedback looking at the information is that I don't believe our players would embrace this. As horrible as this is to admit but the players wont wear anything that may make their legs look shorter or heavier hence they wont wear ankle braces or long*

*socks. They prefer the tape and as we are not far from the start of our season we won't be looking at alternative products.*

*I think this is a great product for club teams and recreation athletes. Thank you for reaching out. All the best.*

*Then later...*

*I am very comfortable with the care we provide and the environment that our athletes train in. There is always a risk when training/playing at this level which we accept and mitigate in numerous ways.*

*Thanks for your reply but at this time we are not looking for another solution in this area. \*\*\*\*\**

If you were genuinely interested in mitigating risk you probably would constantly be looking for ways to better manage it, but she does say “we accept” the risk and “are not looking for another solution in this area”, not assess it as the WH&S hazard that it is, and likely the greatest one they have. Your employees won't like the way they look? My children didn't like wearing a helmet in the skate park for the same reason, but safety informed the decision to mandate it, not money from a global medical company. But then again, it may depend on how much 'they' offered me to ignore my child's safety? Not.

I told you I had heard a lot of excuses, and later in this conversation I was asked if I had a 'vegan' version FFS. I could make it out of plastic that will last in the environment forever, but it wouldn't be as safe, or a naturally occurring fibre used for over 50 000 years. Look at the dressing room floor after a game or training and see the piles of imported plastic and cotton tape or is what you are telling me is that all they see is their image? Or is management making an arbitrary 'safety decision' on their behalf and blaming vanity? I have heard “our athletes prefer tape” before from an NBL Coach, who without even looking at them said our athletes prefer tape.

That is not my experience or the results from the original survey, although management and Physios 'thinking' athletes like or prefer tape when they don't, is consistent. A Brisbane Bronco recently took off tape, applied KiSS X and when asked he replied to the Physio “It's better than tape.” What is better for the athlete is not always what is better for the Physio and I never heard from them again, despite the referral being from Mr Wayne Bennett. But that was from back in the day before Physios started making the safety decision.

My experience is that Executives and a medically unqualified coach are out of touch with workplace reality, but then you will never know the reality if you keep protecting your tape sponsor and ignoring your employees' rights to a safe workplace. What have you got to fear from letting the athletes have a choice? Income from a Sponsor maybe but have you ever considered what preventing ankle sprains might do to your bottom line, even if the long-term health via cumulative trauma of your employees isn't a concern? Obviously the athletes opinion and rights are not important because these are businesses and the employees, commodities it seems, and this pervades every sport I have come across that attracts an audience and sponsors. It is a shameful reality but quite obviously corrupt when you look at it.



Empowering the real stakeholders in ankle sprain prevention and rehabilitation.

With the rise and power of social media and NFL Concussion Litigation, it was clear that fear of the word 'safety' in the pro locker-room was without doubt their 'Achilles Heel'. Probably the most read Lower Extremity Industry magazine in the US, LER or Lower Extremity Review Magazine editor Janice Radak picked up on my LinkedIn discussions about these devices being PPE and asked for an editorial. Janice made it a more powerful statement with her insights into the US industry and relevant to her audience. *What if we adopted PPE as a mindset for Ankle protection* and more recently published her own editorial perspective, continuing the conversation. [Ref article](#)

I had visited the New York Times in late 2019 where my views were directed to the Sport editors for consideration. Having not received any response, I later forwarded the LER article as well to the same email I had previously known to get through. Partly the reason I am 'laying it all out' here is because the only reason they keep it 'hidden' is if nobody knows. They and many others now at least know there is a problem, but I am pretty sure ignoring rights to PPE isn't a great legal defence.



When I reach out to places like Australian Standards Association or Sports Integrity Australia to enquire about standards development or objective investigation, I come across this term "stakeholders". Australian Standards considers the stakeholders to be the brace makers and the medical industry when the real stakeholders in ankle safety are you. I am sure there are many examples, like Big Tobacco, Big Gambling or concussion in the NFL where it has been assumed that the 'stakeholders' would protect their employees and customers and want to develop safer equipment and failed to apply consistent management and mitigation processes. It just wasn't cost effective and athletes are commodities it seems. Sports Integrity Australia, when approached, consider their stakeholders to be the Clubs, Professional leagues, National Associations and APA and SMA so when it comes a question of integrity in Ankle PPE and questions about if it is legal to sell athletes rights to a safe workplace, who do they ask? *Their* stakeholders, *their* members and those who have been ignoring yours and their employees' rights to safety for decades, indeed, trading and leveraging it as a commodity.

You are the stakeholders! I as a manufacturer should not be the stakeholder and in a position to influence Government policy regarding safety or medical efficacy (effectiveness) nor should I be able to influence organisations such as Sports Integrity Australia, but they do. And they do it officially sanctioned, supported and I think protected from scrutiny by the very organisation that is supposed to monitor and regulate sport safety and integrity. Like the AIS, you expect these organisations, federally funded, to act in your best interests, the taxpayer or stakeholders, but they don't always and have their head in the sand on this Sponsor issue and are actually facilitating harm to you and

your children by doing so. So in our advocacy, it is important when talking or writing to your club or Sports Integrity Australia and others, to remind them who the stakeholders are in Australia. It is not the businesses (yes all leagues, clubs, teams and Physio and athletic training associations are businesses using sport for profit), it is you who are the stakeholders and they need to know that.

Online petitions are a good way to make our point and agitate, or you can just write a letter on your own. They can't ignore all of us all the time! After all, all we want is to know if a system is safe, and how safe, and does it do good without doing harm.

***The 'REAL' stakeholders in ankle sprain safety and rehab are you, the parent or carer, weekend warrior, athlete, taxpayer or fan and it is time they heard you.***

The reason Big Tape can get away with it, and allied health professionals remain able to exploit and perpetuate your ankle 'disease', and that of professional athletes and your children, is a lack of awareness by the public as well as a lack of alternatives, because are there more alternatives than mine? We would never know unless they can be shown to profit Physios when replacing tape and shortening and improving rehab or eliminating the need for 'physio' through effective PPE undermines a significant revenue stream.

I would not be surprised to find others have developed safer and medically more beneficial products and methods than those pushed by Physio for profit alone, but likely they have experienced the same unlevel playing field I have. Only independent Safety Tests, Standards and Medical Evidence of health benefit or repair will level this and make sport safer, and there are numerous other products regulated tested and Standardized such as helmets and shin pads to use as examples of the absurd and likely deliberate manipulation of the system. You and your advocacy are the only thing that will and can change that because now APA and Professional Sports Leagues are 'happy' to exploit and perpetuate our ignorance for profit, because to them the 'Ankle Sprain Industry' is working according to plan! And it will continue unless we do something about it, and concussion through helmet testing and regulation tells me we definitely can!

Some of these tools can help change the game on social media platforms, or you can just make your own statement.

Write a letter

Start or sign a petition

Make a complaint or report about your concerns about safety or sport integrity

Join or start a Class Action Lawsuit

### **The future: Regeneration v Joint replacement.**

The future could be now so these are some ideas on how you might modify surgery and exercise rehabilitation design to regenerate PTAOA. I was discussing this with an Australian Ankle surgeon, who must have missed the bit where I said it was a theory, because he offered to try 'Synoleak' © on his patients. I discussed this with other ankle surgeons in the US so at least in theory, I believe it has merit. See why I prefer talking to ankle surgeons instead of Physiotherapists!

To be continued.