



Injury and Healing 101 – *move it to use it!*

By Robert Rudelic BS, NMT, MES

Everyone is so worried about injuries these days it's a wonder we still play sports at all. After more 25 years spent working in the field of sports medicine teaching people how to play their best and avoid injuries, people are still getting hurt, doctors are still giving out prescription drugs like candy and RICE is still used by "forward thinking therapist" to treat injuries.

This is America where innovation is everywhere! Without innovation we would all be driving model T's and talking on land lines. Innovations in medicine have also come along way as well, yet for the most part we still are told to use methods from 30 years ago. An example of this is RICE (Rest, Ice, Compression, and Elevation). Although a safe and very basic strategy, it's not going to help the person or athlete get back on the field or back to work very quickly. The objective is to limit inflammation and further damage yet it does so while prolonging the length of time it takes to fully recover....crazy!

When you injure yourself, the initial injury is recorded emotionally in every cell of the body. That's that "OH NO" moment when you see it coming and cringe or hold your breath or the "OUCH" moment when you first feel it. Then, the body goes into a state of shock where it limits movement to protect itself as you are lying there wondering how bad it is. Then the inflammatory process begins. You feel it swell up or heat up or if the skin is lacerated blood starts coming out. You need to address all 3 Stages for optimum recovery. This is where M.I.C.E.M. (Movement, Ice, Compression, Elevation, and Massage) is so effective and is the new paradigm for addressing soft tissue injuries. After the initial trauma is addressed the healing process begins.

By moving the injury site passively and gently you break the initial holding pattern and start signaling the brain to let go and relax. This in turn starts to unwind the emotional response which improves all physiological processes and aids the immune system in working efficiently to

heal the injury. This strategy gets circulation going immediately, flushes out the area and breaks the shock/spasm response the body goes into whenever it's injured to limit the damage. This also reduces the secondary trauma which in many cases is a bigger problem than the original injury. Lastly, it reduced the recovery time greatly by limiting adhesion formation which makes the whole recovery process less painful. Movement also serves a function when the person gets active again. The nervous system lays down memory responses to injury and even though you are feeling better, in the background there's a reflexive response waiting to be stimulated and when this stimulus occurs the tissue responds the same way it did when it was injured. So, because of the initial injury it's easier to re-injure the area and the spasmodic response is the same intensity as the first one. It was just waiting for a signal to go into spasm.

RICE starts with rest and ice which both SLOW DOWN the healing process. MICEM starts with gentle passive range of motion which immediately signals the brain that it's ok to move again and breaks the shock response, flushes out the area and improves circulation. Rest lets everything settle in and often leads to a larger secondary trauma site. Hypoxia is a state of oxygen debt caused by muscle tension during the shock response. It's in this state that healthy tissue can be suffocated or damaged causing secondary injury. Adding ice makes the tissue go into hibernation which protects it from further damage by limiting the amount of oxygen it needs to stay alive. Initially this is good but with MICEM the need for this is lessened with every repetition of movement because we move quickly out of the shock mode and tissue tension is reduced quickly.

The best approach is M.I.C.E.M – Movement, Ice, Compression, Elevation, and Massage. Taking the R.I.C.E approach to treating an injury is less effective!

R – Is for rest. Conventional wisdom says to rest an injured site. You want to let the body heal itself right? Well, this fly's in the face of common sense as well as the latest research on how injuries heal. First, Ida Rolf said (Ida Pauline Rolf was a biochemist and the creator of Structural Integration or "Rolfing") "a lack of movement is death" the only time the body needs rest is when you're sleeping. Otherwise to address an injury you need movement to shift the body into a healing mode.

I – Ice is recommended but not for weeks like so many are told. Ice should be used in stages and for a short time. I have athletes who continue to ice an injured site for 1-2 weeks to "keep inflammation down". All it does is slow down the healing process. When you ice an injured area you slow down physiologic processes, i.e. the healing process. The body needs to go through the 5 stages of healing to get better. Ice should be used often for the first 48 hours, then switch to ice/heat/ice for 48 hours then moist heat thereafter. For inflammation after the first 48 hours I use a topical product and IBPROFEN. No Naproxen etc.!!!

Compression – Compression is used to limit edema which is the buildup of fluid in the tissue. This is a good strategy initially for daytime use when you're moving around but it can inhibit healing by limiting blood flow all day long. Compression is often overused and used too long. In many cases, with the successful management of initial inflammation, compression is not needed. I advise using it for injuries of the extremities at night so when tossing and turning you don't wake yourself up.

Elevation – Another strategy for moving lymph and limiting edema. Again depending on the severity of the injury it can be an effective strategy for keeping edema from pooling especially in joint injuries. Most people do not use it correctly. A 60 degree elevation is not going to do it –

you need to be 80-90 degrees for 5 minutes then lie flat for 2 minutes before standing up to allow for the valves in the circulatory vessels to readjust.

MICEM is more effective

M – Movement. Immediately start right away with passive ROM (range of motion) using very small movements to get the fluid moving. Dr. Michael Dillingham, co-founder and originator of the Sports Orthopedic and Rehabilitation (S.O.A.R.) pioneered the use of passive ROM machines in post op. It speeds up the healing process, decreases pain and adhesion formation. The biggest problem with injuries healing correctly is adhesion formation. It slows down the rehab process and makes it more painful when it does not need be. I teach and use Active Isolated Stretching. The Active Isolated Stretching (AIS) method of muscle lengthening and fascial release is a type of Athletic Stretching Technique that provides effective, dynamic, facilitated stretching of major muscle groups, but more importantly, AIS provides functional and physiological restoration of superficial and deep fascial planes.

I – Ice is used only for the first 2 days unless it's a grade 2 sprain/strain in which case I would discontinue it all together. I learned this from a mentor of mine and it works great for the first 5-7 days along with taking 3 Advil/Motrin 3 times per day. It reduces inflammation and cuts down the pain. I also use topical applications such as Mobility Rx and Traumeel for the same purpose. Remember Ice slows down the healing process so use it wisely.

Compression – Sparingly, unless it's a weight bearing joint with a grade 2 strain/sprain, and usually only at night so you don't twist the injured joint and wake up.

Elevation – when relaxing, put the limb up otherwise it's not a primary tool.

Massage – Gently effleurage (light medium long strokes towards the heart) to flush out the tissue and improve circulation.

2 DIFFERENT APPROACH WITH 2 DIFFERENT OUTCOME

I had two High School students get injured in the same lacrosse game because of dehydration and exhaustion. I treated one of the boys and the other was treated by the family doctor. I used the MICEM protocol and the very next day (to his parents shock) he could stand and bear weight without pain. I taught him the protocol and how to do the gentle movement and saw him 3 days later. Not only was he feeling good but had no limp and was asking when he could play again. He practiced the following Saturday (1 week after initial injury) at 60% then started back at full strength the following Monday. The other boy went to the doctor, got a prescription for an anti-inflammatory and a muscle relaxer and was told to stay off the ankle and rest. Not even RICE. I saw him at the field but did not treat him. Because his parents are very impressed with medical doctors they insisted he be treated by the doctor. He asked me what I thought and I told him it was no worse than the other boy's injury. So as a result of his treatment, he did not

practice for 2 weeks then upon returning to the field, pulled his hamstring. This is a predictable event because his body is still guarded from the initial injury which causes tight muscles and slower coordination and reflexes. This time his parents called me because they saw boy #1 already playing and his parents told them about our first visit and their son walking right away.

Bottom line is this – it's been my experience that doctors are good at diagnosing a problem but unless surgery is necessary treatment is better handled by therapists trained in soft tissue injuries. RICE is very basic and is better than not doing anything but MICEM is highly effective on multiple levels. It's the way to treat soft tissue injuries in the 21st century. One more thing; once you know the protocol you can treat yourself quickly and effectively and return to active life that much faster. Now, you have choices and it's your choice how you want to be treated.



choices

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