

# “Secondary Cellular Death” Is Actually Negligent Homicide

By: Gary Reinl

You roll your ankle. Some cells die instantly. Many others are doomed to the same fate. † This process of selective elimination is known as primary cellular death and there is nothing that you or anyone else can do to prevent or reverse the carnage.\*

Next, assuming that you remain fundamentally still (which is clearly out of sync with the basic principles of tissue preservation and regeneration and functional circulation), the area around your ankle will begin to

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unnecessarily swell, the pressure will build, and the sensation of pain will increase. Within hours normal weight-bearing activities like standing and walking will become impractical and simply wiggling your toes will likely elevate your perception of discomfort. Soon, otherwise perfectly healthy local cells that were totally unaffected by the initial trauma will *die* from suffocation and disuse because the congestion in the area will prevent the necessary flow of oxygen, nourishment and waste, † and disuse will literally cause the musculoskeletal system to self-destruct (atrophy).

Yes, I said “die.” When something that was previously alive suffocates or *irretrievably* “atrophies” it is no longer alive ... which means that it is dead. Collectively this is known (albeit incorrectly) as secondary cellular death and unlike primary cellular death, it is mostly preventable.

Yes, I said “preventable.” If you want to stop the unnecessary killing of these otherwise perfectly healthy cells, simply follow the **ARITA** (Active Recovery Is The Answer) protocol. In this case, as a place to start, think ankle pumps. *Done correctly and for a long enough period of time* (see example 3), the muscle activation will not only ultimately decongest the area via your lymphatic drainage system (assuaging the risk of suffocation), it will avert, or at least significantly minimize, the disuse atrophy, increase local blood flow, prod the up-regulation of the production of stem and blood cells, stimulate the muscles to produce and release the myokines that mediate the tissue regeneration process (which includes but is not limited to the growth of both new blood vessels (angiogenesis) and mitochondria (mitochondrial biogenesis)), and ultimately reorganize the repaired tissue. <sup>1,2,3,4,5,6,7,8</sup>



Will ARITA prevent all cell death caused by suffocation and disuse? I don't know and frankly I don't care. What I do know is this: the charade is over and it's time to rewrite the textbooks and amend related clinical expectations. The whole idea of “secondary cellular death” following musculoskeletal damage is patently false. Cells that are otherwise perfectly healthy *do not* die as a result of some divinely-inspired preprogrammed inescapable injury-driven master plan. They die (mostly) unnecessarily from suffocation and disuse. In other words, if a person's lack of action causes their otherwise perfectly healthy cells to needlessly die, said person is indefensibly guilty of *negligent homicide* of their own cells.

*\*For those who are not up to date on the topic, icing damaged tissue does not prevent the inevitable (e.g. once the tissue rewarms the “slaughter” will resume). More importantly, icing not only does not help, it actually delays the healing process, causes additional damage, increases swelling and shuts off the signals that alert you to harmful movement. <sup>2</sup> Even the godfather of the “ice age” (Gabe Mirkin, MD, the man that literally invented the R.I.C.E. protocol) has publically acknowledged that he was wrong about ice and no longer recommends using it. <sup>2, 9</sup>*

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#### Additional Suggested Reading

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