What is DOMS?
We’ve all felt it the day after a hard workout and it can last a few days. Loss of strength and stiffness in all the fatigued muscle areas in addition to an inability to walk down the stairs, truly a reward for hard work.

Mechanisms behind DOMS:
1) Popping Sarcomere hypothesis
This theory states that during eccentric contraction (the ‘down’ phase of an exercise) the myofibrils (the most basic muscle unit) experience significant stretch. During this stretch, the weaker myofibrils absorb most of the stretch until they are overstretched and fail to reconnect because they are disrupted. Following disruption, the inflammatory response by the immune system follows.

2) Inflammatory response
Following disruption, leukocytes (white blood cells) are released to the injured tissue and enter via soluble intercellular adhesion molecule 1 (sICAM-1, labeled as ‘adhesive molecules’ on figure). Thereafter, pro-inflammatory proteins and reactive oxygen species are made in the muscle by cells of the immune system. Additionally, the immune system mobilizes other cells to phagocytize damaged muscle debris. This intramuscular degradation amplifies the initial muscle damage.

Treatment and Management of DOMS:
• **Massage** – One of the most promising forms of treatment for DOMS. However results may vary regarding
• **Ice** – Icing sites of soreness has shown temporary alleviation of pain and stiffness. The more extreme forms of icing (Full-body cryotherapy) have shown promising results in some athletes.
• **Stretching** – Just like ice packs, stretching has been shown to produce a temporary alleviation.
• **Exercise** – As surprising as it may seem, this is the most effective remedy for delayed onset muscle soreness. Assuming that your range of motion is not restricted by the soreness, this is the recommended remedy. If training every day, then it is recommended that the intensity be reduced until soreness is alleviated.
