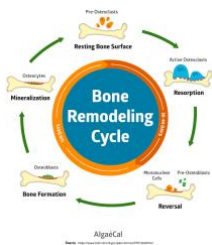


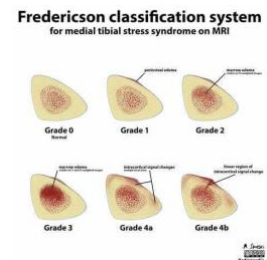
Bone stress injuries (BSIs) is a term that encompasses both stress reactions and stress fractures to skeletal bone, of which are common injuries among runners. BSI refers to the failure of skeletal bone to adapt and withstand to the load placed upon it and may be prevalent in up to 20% of runners (Tenforde et al, 2016).

Due to the repetitive nature of running and the impact involved throughout the lower limb, areas throughout the lower limb are most commonly affected. These may include, but not limited to, the tibia, femur, navicular, and metatarsals.

Bone, like all tissues within the body, is an adaptive structure that responds to the stimulus we place on it. This means that our bones are consistently adapting to the stress placed on them, called 'bone remodelling.' With too much load, relative to its ability to absorb it, our bones may weaken and develop sites where the breakdown of the bone has become too much for it to support adequate recovery from.



A continuum of bone injury exists which explains the progressive nature of BSIs. This continuum suggests that these injuries can progress in severity, starting with a grade 1 and potentially eventuating into a grade 4 injury. Conversely, one may also move in reverse along this continuum. With optimal management, allowing sufficient bone recovery, it is possible to move down in grades and return toward healthy resting bone levels.



As with most injuries, prevention is better than cure. This involves having well designed training programs that allow of sufficient recovery relative to the level of load to allow the bone to strengthen over time. However, in the instance where bones start to develop areas of stress, modified loading and training plans are often needed and for higher grade injuries may involve immobilisation and/or non weight bearing through the affected site, and a period of rest from activity/s.

Consulting with your physiotherapist early is needed to formally assess the injury and to implement any required next steps. This may involve imaging with MRI and/or CT, referral to a sports physician and dietician and modification of training and commencement of a rehabilitation plan.



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