may have developed their stress fractures more from repetitive over-use than rapid explosive muscle action on bone. This over-use would have its effect via longitudinal stresses on the bone and studies on such stresses in the normal femur (Koch, 1917) have indicated that maximal tensile stresses occur on the medial side of the upper mid-shaft of the femur and in the femoral neck.

The authors thus postulate that an interplay of forces exists between muscular action at their insertions and the longitudinal impact forces through bone both serving to fatigue and fracture the medial femur mid-shaft. The different types of activity highlighted by the different athletes illustrate the ends of the spectrum of biomechanical stress.

CONCLUSIONS
Stress fractures of the medial femoral mid-shaft are being diagnosed in athletes.

The authors have noted a feature of the presentation of this condition which has been described for the first time as the “hanging leg” sign.

Consideration of the biomechanical factors at play amongst the athletes studies has led to the consideration of muscular forces and longitudinal stress through bone. We believe that it is a combination of these that contributes to the development specifically of medial mid-shaft stress fractures in the femur of the athlete at risk.

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References