

SPLINTS

with **Dr Paula Williams**

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Paula qualified in the UK in 1993 and has been an equine veterinarian since then. She completed an internship at Rosedale and Partners in Newmarket, UK and has subsequently

worked in equine hospitals both in the UK and Australia. Paula is currently an equine practitioner at WestVETS Animal Hospitals in Queensland.

Her clinical interests include diagnostic imaging, the investigation and management of musculoskeletal issues in the equine athlete, the equine foot, neonatology and internal medicine.

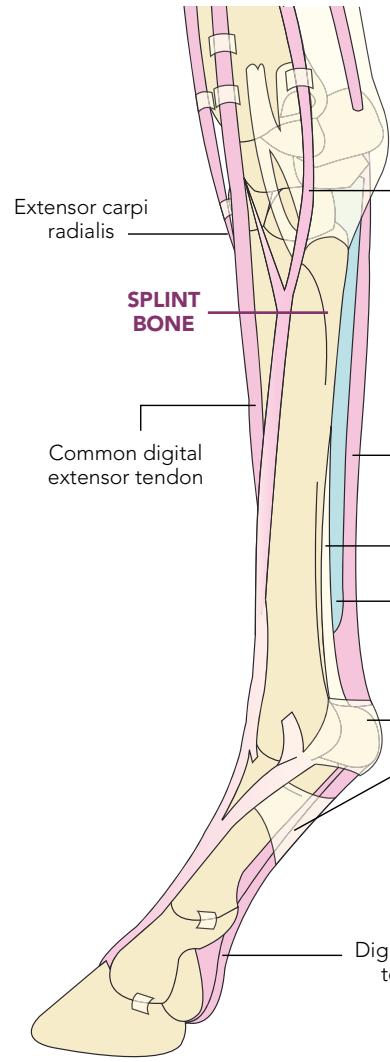
SPLINTS" is the common term given to an inflammatory condition of the splint bones of the leg. Here, we are going to have a look at the anatomy, what the condition is and how it is best managed.

Anatomy

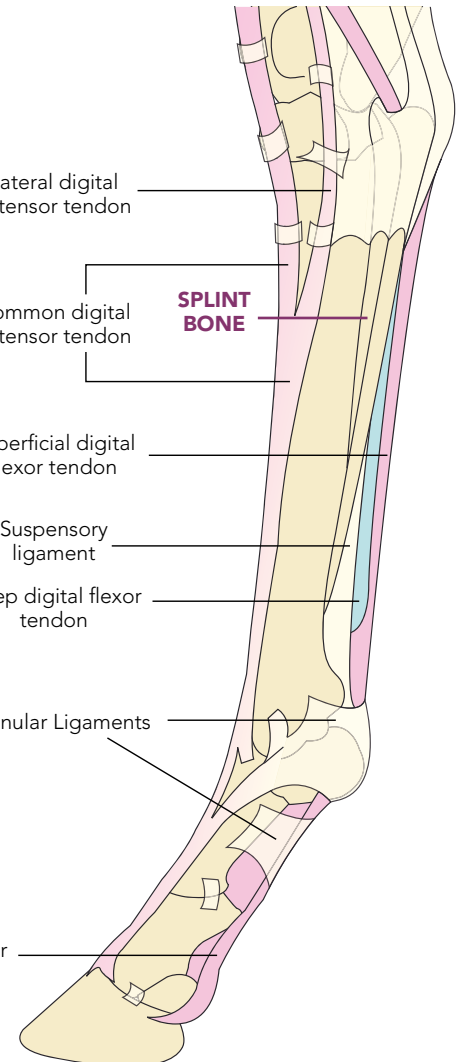
On the inside and outside of the cannon bone there are two long, narrow bones – these are the **splint bones**. They start at the knee in the front limb and the hock in the hindlimb and taper/narrow as they run down the limb; they end in a small knob about two-thirds of the way down the cannon bone above the fetlock. They are covered by a tough, thin, fibrous sheet – **periosteum**.

Between each of the splint bones and the cannon bone is the **interosseous ligament**. This is a dense connective tissue that **ossifies** (becomes boney) as the horse matures. The ossified ligament fuses the cannon bone and splint bones and usually occurs in most horses by the time they are three to four years of age.

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What are splints?

Splints are the development of **exostoses** (new bone) along the involved splint, resulting in a bone swelling that protrudes outside of the normal contour of the splint bone.

What are the causes?

Splints are the result of trauma to the periosteum or the interosseous ligament and result in new bone formation at the location of the injury.

The trauma can be a concussion, strain from excess training, faulty conformation, imbalanced nutrition, hoof imbalance and improper shoeing.

The interosseous ligament is elastic and stretchy in the younger horse, but as the horse develops, it becomes ossified and tougher and allows the splint bones to cope with more concussive type trauma, and the older horse is less likely to develop splints.

Where do they occur?

The majority of splints develop on the **medial side** (inside) of the limb and tend to be more common in the forelimbs. They can, however, occur on the **lateral** (outside) and in the hind limbs.

The medial splint bone is more commonly involved because it has a flat surface next

to the knee, whereas the lateral one has a more slanted surface. It seems that the medial splint bone probably bears more weight than the lateral one, and so is subjected to more stress.

What aged horses are vulnerable to splints?

As mentioned previously, the interosseus ligament is more vulnerable to damage in the younger horse, and as a result, splints are more common in the two to three year old, but sometimes up to four years old. They usually occur when these young horses are undergoing training in some form.

What are the treatment options?

There are many ways that splints are managed, but the most important and mandatory management is rest. Veterinarians may use anti-inflammatory medications and techniques to help reduce inflammation and help prevent excessive bone growth. This may help with a more acceptable cosmetic appearance.

Prognosis

The prognosis for the majority of horses is good to excellent. Once the acute inflammation has subsided, then the horse can gradually return to work. Most cases will have a firm swelling; however, this is usually not painful once the acute inflammation has resolved. Exceptions are those that have a very large bone swelling that interferes with the joint or the suspensory ligament.



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The conservative management of splints includes:

Rest	Complete rest until the splint is no longer painful to palpate. This usually takes about six weeks, ranging from three weeks to three months.
Topical Cold Therapy	Icing and cold therapy help decrease the swelling.
Pressure Bandaging	This is used to help reduce swelling.
Non-Steroidal Anti-Inflammatory Drugs (NSAID)	E.g. Phenylbutazone help reduce swelling.
Topical Anti-Inflammatory Drugs	E.g. DMSO or Voltaren help reduce swelling.
Lasers, Ultrasound, Shockwave Therapy	May help in healing, but their use may be controversial.
Surgery	If the exostoses are large and impinge on the suspensory ligament, then surgical intervention may be recommended.

Prevention

The risk can be minimised by the following:

- 1 Slow down the intensity and the frequency of training for a young horse
- 2 Ensure proper nutrition
- 3 Avoid obesity
- 4 Maintain appropriate foot care
- 5 For those with limb interference - use protective splint boots

Summary

Splints are inflammation and development of exostoses associated with the splint bones. They are more common in younger horses as a result of trauma. They carry a good prognosis with appropriate management, including rest.

If you are worried about the development of splints in your young horse, then please consult your veterinarian. 🐾