



Radiofrequency ablation (RFA) is a minimally invasive treatment for Morton's neuroma, a condition caused by perineural fibrosis, resulting in scarring and compression of an interdigital nerve. It usually occurs between the metatarsal heads of the third and fourth toes but can sometimes occur between the second and third toes

Using ultrasound guidance, a RFA probe attached to a generator is inserted into the web space between the toes and into the area of the neuroma. Controlled pulses of radiofrequency energy are delivered, which cause thermal ablation of the nerve.

Before the procedure

You need to advise Dr Bell if you:

- Are taking any blood thinners (Aspirin is OK)
- Have any rash or skin problem affecting the skin around the affected toes
- Are diabetic
- Have a pacemaker or implantable defibrillator

On the day

- Ensure your foot is thoroughly cleaned with soap and water.
- Wear clean socks (open footwear is fine).
- If you have any cold or flu like symptoms, you must have a negative Covid test (RAT) on the day and advise us prior to arriving.

The procedure

Your appointment will take approximately one hour. This includes the time it takes for your foot to go numb following the administration of local anaesthetic.

Anaesthetic is usually injected into the ankle and top of the foot to anaesthetise the nerves supplying the foot. So, you can expect your whole foot to feel numb for some hours after the procedure.

As a result, the procedure itself is generally not painful.

Radiofrequency Ablation for Morton's Neuroma



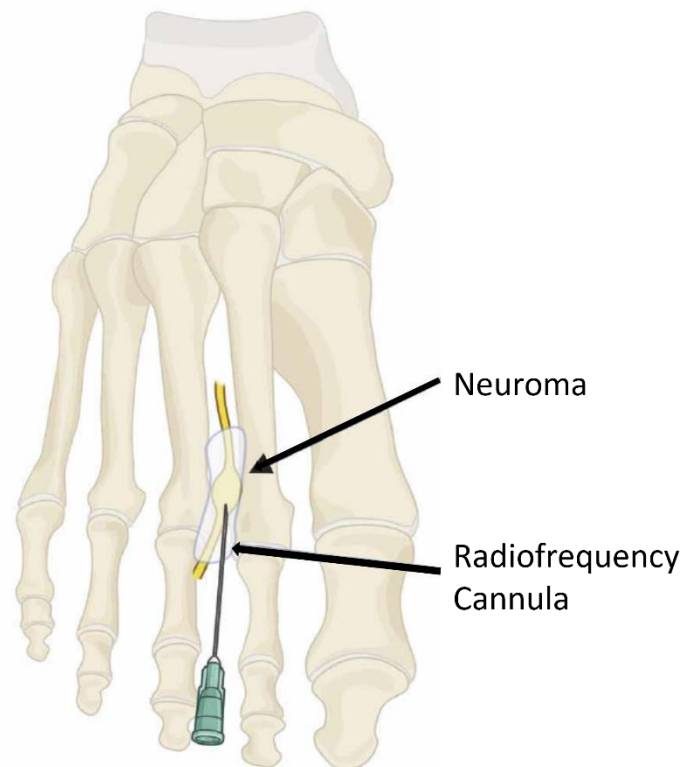
A cannula is inserted into the neuroma, and an electrical current is passed through it for around 2 minutes. This creates heat at the tip, ablating the nerve. The cannula is then repositioned 2 to 3 times, and the procedure repeated.

Once completed, a small dressing is applied. You can wear your usual footwear.

After the procedure

Because your foot will be numb for a few hours after the procedure, we advise against driving for the remainder of the day, and you will need to take care while walking (avoid uneven or irregular surfaces).

When the anaesthetic has worn off, most patients



describe pain as a mild burning sensation. Use paracetamol or an anti-inflammatory as needed. We recommend that you keep your foot elevated for the remainder of the day, applying ice for 20min each hour.

You can return to light activity the next morning and can go to work as long as your job isn't too strenuous (if you have a strenuous job, 4-5 days off is advised). For the next 4-5 days, you should avoid longer periods of walking (short walks of 10 minutes or so will be fine).

Wear comfortable shoes or sneakers for 1-3 days after the procedure, keeping the area clean and dry.

You can gradually return to a normal level of weightbearing activity over the next 3-4 weeks.

When will I notice a difference?

Many patients notice a difference within 1-2 weeks, however this does vary, and we normally advise that the final outcome will take up to two months.



Are there risks I should know about?

RFA for Morton's Neuroma is safe and effective. Risks of the procedure include:

- Infection at the procedure site
- Bruising or haematoma formation
- Thermal burn to skin (very rare)
- Nerve damage causing pain (very rare)
- Procedure failure – occasionally a repeat procedure is required

Additionally, the nerve that is ablated supplies sensation to a small section of skin between the toes, and so you will be left with numbness in this region. You may not notice this.

What does the research say?

Research suggests that ultrasound guided radiofrequency ablation is associated with high patient satisfaction scores and long-term pain relief.

Study 1: Of 29 patients treated, 24 (83%) reported complete relief of symptoms 1 month after treatment. 17% had minimal or no relief (Moore, Rosen, Cohen, & Rosen, 2012).

Study 2: 26 neuromas in 22 patients were treated. Pre-procedure, median pain was reported as 8/10. At 6-8 months post procedure, median pain score was 1/10. (Shah, Ahmad, Hanu-Cernat, & Choudhary, 2019).

Study 3: 30 feet in 25 patients were treated. Average number of treatments required was 1.6. Average pre-procedure pain score was 6/10, dropping to 1.7/10 post procedure. Average overall symptom improvement was 76%. 10% eventually required surgery. (Chuter, Chua, Connell, & Blackney, 2013).

Study 4: 52 patients treated. Average pain score pre-procedure was 9/10. At one year, average pain score was 2/10 (Masala, Cuzzolino, Morini, Raguso, & Fiori, 2018).

References

Chuter, G. S., Chua, Y. P., Connell, D. A., & Blackney, M. C. (2013). Ultrasound-guided radiofrequency ablation in the management of interdigital (Morton's) neuroma. *Skeletal Radiol*, 42(1), 107-111. doi:10.1007/s00256-012-1527-x

Masala, S., Cuzzolino, A., Morini, M., Raguso, M., & Fiori, R. (2018). Ultrasound-Guided Percutaneous Radiofrequency for the Treatment of Morton's Neuroma. *Cardiovasc Intervent Radiol*, 41(1), 137-144. doi:10.1007/s00270-017-1786-y

Radiofrequency Ablation for Morton's Neuroma



Moore, J. L., Rosen, R., Cohen, J., & Rosen, B. (2012). Radiofrequency thermoneurolysis for the treatment of Morton's neuroma. *J Foot Ankle Surg*, 51(1), 20-22. doi:10.1053/j.jfas.2011.10.007

Shah, R., Ahmad, M., Hanu-Cernat, D., & Choudhary, S. (2019). Ultrasound-guided radiofrequency ablation for treatment of Morton's neuroma: initial experience. *Clin Radiol*, 74(10), 815 e819-815 e813. doi:10.1016/j.crad.2019.07.002