



# Microwave-based therapy for axillary hyperhidrosis

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Microwave treatment for axillary hyperhidrosis is an effective treatment modality with high rates of patient satisfaction (1). It has a rapid response time and effectively allows the patient to return to work or normal physical activity in a short period of time. The procedure is performed under local anaesthesia and each armpit takes around thirty minutes for the microwave application to occur. Each armpit needs two treatments, around 3 months apart. The most common side effects of this modality include swelling, pain, numbness and hair loss. The side effects are minor and short lived.

Being a permanent treatment modality, it should be compared with the other permanent options reported in the literature which include radical surgical excision, excision with liposuction and endoscopic thoracic sympathectomy (2). There are also newly developed physical therapies that are currently being explored including the recently described Nd-YAG laser used both on the skin surface and subdermally (3-5). Studies have demonstrated that both modalities are effective in axillary hyperhidrosis. Laser treatments are effective but are often associated with long recovery times and can leave scarring and retraction. Surgically, endoscopic thoracic sympathectomy is very effective but compensatory hyperhidrosis has been as high as 94% (6). It is however a very effective and satisfying with satisfaction rates high at 88.7% at three years of follow up (7). Medical management with anticholinergic agents has declined in recent years with the use of these newer modalities. While effective, three quarters of patients report dry mouth (8). Other anticholinergic side effects including headache, constipation, and urinary retention limit their use in some patients (9).

Microwave ablation is effective and, most importantly, the side effects are fewer and less significant in comparison

to other modalities (10-12). It has followed up data for 12 months which showed a statistically significant improvement [responders defined as those reaching Hyperhidrosis Disease Severity Score (HDSS) of 2 or less] (12,13). Hong *et al.*'s un-blinded study of 31 patients showed that over 90 per cent of patients achieved a HDSS score of 2 or less with a follow up time of 12 months (11). From a patient focused perspective, microwave treatment is highly effective and patients report a high level of satisfaction (14). Lupin *et al.* reported a significant reduction in the above Dermatology Life Quality Index (DLQI) points (14). In their systematic review, Nasr *et al.* reported better short-term and longer lasting results than Botox or liposuction-curettage (9,14,15). Most of the literature focuses on axillary hyperhidrosis so studies on other body parts is welcome. Pace and Kentosh reported on the emerging usage of microwave ablation on residual limbs to combat dermatoses driven by the prosthetic liner covering limb prosthesis in young amputee patients (16).

## Conclusions

Axillary hyperhidrosis is common and intrusive. Patients present with debilitating effects on their confidence and interaction with other people. It can severely impact quality of life.

Surgical intervention does provide long-term management of axillary hyperhidrosis but it is more invasive and associated with compensatory hyperhidrosis. Alternatively, long-term oral medications and injections have side effects, are expensive and only work for short periods of time relative to the permanent modalities. The microwave device treatment offers a long-term solution to axillary hyperhidrosis, is non-invasive, has little downtime, minimal

side effects and high patient satisfaction.

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