

# **Pain Guidelines for Nederlandse Vereniging voor Anesthesiologie sectie Pijngeneeskunde (NVAsP) and the Vlaamse Anesthesiologische Vereniging voor Pijnbestrijding (VAVP): Anterior Cutaneous Nerve Entrapment Syndrome (ACNES).**

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## RESEARCH QUESTIONS:

What is the evidence for the different interventional treatment options in the management of Anterior Cutaneous Nerve Entrapment Syndrome (ACNES)? There are different invasive and minimal invasive treatments applied for ACNES. We studied the following treatments:

1. Triggerpoint infiltration therapy
2. Neurectomy
3. Pulsed radiofrequency treatments

The literature is graded on methodology and reviewed on effectiveness and adverse events. Given the conclusions and together with the overall considerations we give an advice for the place of the different treatment modalities.

## TRIGGERPOINT INFILTRATION (TPI)

### Literature overview:

A randomized clinical trial (n=48) comparing the postprocedural pain reduction following lidocaine TPI to saline TPI significantly favoured lidocaine (13 of 24 patients showed 50% VAS or VRS reduction compared to 4 of 24 in the saline arm,  $p=0.007$ ). No long term follow up was available. Minor complications such as haematoma and postprocedural pain occurred in 7 patients.<sup>1</sup>

### Conclusion:

There is low quality evidence that TPI is effective in patients with ACNES.

### Considerations:

A retrospective study of 139 consecutive ACNES patients receiving one or subsequent TPI with lidocaine and/or corticosteroids showed a postprocedural response (50% VAS reduction) in 81% of patients and permanent pain reduction in 33%. Non-responders eventually received a neurectomy. Follow-up is limited because of the retrospective analysis. No adverse events were reported.<sup>2</sup>

The added value of TPI with corticosteroids on long-term pain relief is currently being investigated in an RCT registered in the Dutch Clinical Trial Register (NTR 4141).<sup>3</sup> Using a different injection technique, two case series of in total 5 patients receiving Transverse Abdominal Plane (TAP) blocks showed permanent pain reduction in 4 after 1-3 targeted TAPs. (4,5) In conclusion, TPI seems to be beneficial for only a small proportion of patients. Further research is needed.

**Recommendations:**

TPI can be considered as a safe first line therapy before advancing to more invasive treatment options. Patients should be informed about the low overall success rate.

**NEURECTOMY****Literature overview:**

Only one RCT was available randomizing patients to a neurectomy or sham procedure. Each arm included 22 patients. Outcomes were measured at six weeks post procedure with 50% pain relief on VAS/VRS being recorded for 16 of 22 of the neurectomy arm compared with 4 of 22 for the sham arm. Complications were local hematoma, infection and increased level of local pain in 7 patients.

This trial was well conducted and had a low risk of bias using the Cochrane Risk of Bias tool. However numbers recruited were small and there was no long-term follow up to assess pain relief beyond six weeks. It was noted by the authors that pain recurred within six months in the four patients having pain relief after the sham operation. Furthermore 14 of 22 sham patients obtained pain relief after cross-over to neurectomy. It appears that neurectomy may benefit a proportion of patients with ACNES.<sup>6</sup>

**Conclusions:**

There is low quality evidence that neurectomy treatment of ACNES is effective.

**Considerations:**

A retrospective observational study of 181 neurectomies in 154 individuals with a median follow-up of 32 months showed success rates only decreased slightly over time (70% initial success versus 61% long term success). A subgroup of patients with recurrent or persistent symptoms after neurectomy (n=41) was reoperated using a different approach leading to 50% pain relief in 66% of patients. The success rate of these procedures seems to outweigh the risk of recurrence and complication risk.<sup>7,8</sup>

**Recommendations:**

Neurectomy treatment obtains long-term pain relief in the majority of patients.

## **PULSED RADIOFREQUENCY TREATMENT (PRF)**

### **Literature overview:**

No systematic reviews or randomized clinical trials were found investigating the efficacy of PRF in ACNES.

### **Conclusion:**

There is no evidence that PRF of either the thoracic dorsal root ganglia or peripheral efferent nerves in the abdominal wall is effective in ACNES.

### **Considerations:**

One case study describes successful PRF treatment at the level of the dorsal root ganglion T11-T12 in one ACNES patient, resulting in complete remission of complaints and ceased pain medication use for a follow-up of 6 months.<sup>9</sup> A trial set-up article by Maatman et al. shows the outlines of an ongoing randomized clinical trial comparing the efficacy of peripheral PRF to a neurectomy. Patients are currently being enrolled and results are expected by the end of 2017.<sup>10</sup>

### **Conclusions:**

There is little evidence up to date regarding the efficacy of PRF in ACNES but the therapy is of interest in a current trial. The optimum localization of treatment is unclear.

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