RNT – Achtergrond huiswerkopdracht. **Drie recente studies & 2 reviews naar het belang van triggerpoints, pijn, desensitisatie met manuele compressie of dry needling. Als laatste een (klassiek) abstract naar dry needling i.c.m. TENS.**

Uiteraard valt aan een dergelijk kort overzicht geen conclusie te verbinden. Feit is dat een myofasciaal klachtenbeeld door FT frequent wordt vastgesteld en (deels) verantwoordelijk wordt gesteld voor de subjectieve klachten. Dat ter desensitisatie van die trigger points een aantal interventies ter beschikking staan waaronder een aantal manuele verrichtingen (compressie met / zonder rek) en dat dry needling frequenter wordt toegepast zonder dat level 1 ondersteuning aanwezig is.

1- Prevalence of myofascial trigger points in the hip in patellofemoral pain.

Roach S[1], Sorenson E, Headley B, San Juan JG.

Arch Phys Med Rehabil. 2013 Mar;94(3):522-6.

OBJECTIVES:
To determine the prevalence of myofascial trigger points (MTrPs) in the gluteus medius (GMe) and quadratus lumborum (QL) for subjects with patellofemoral pain (PFP), and to examine the relationship between MTrPs and force production of the GMe after treatment.

DESIGN*:* Randomized controlled trial*.*

SETTING*:* A physical therapy clinic.

PARTICIPANTS*:* Subjects (N=52; mean age ± SD, 30±12y; mean height ± SD, 172±10cm; mean mass ± SD, 69±14kg) volunteered and were divided into 2 groups: a PFP group (n=26) consisting of subjects with PFP, and a control group (n=26) with no history of PFP.

INTERVENTIONS*:*
Patients with PFP received trigger point pressure release therapy (TPPRT).

MAIN OUTCOME MEASURES*:*
Hip abduction isometric strength and the presence of MTrPs.

RESULTS:
Prevalence of bilateral GMe and QL MTrPs for the PFP group was significantly higher compared with controls (P=.001). Subjects in the PFP group displayed significantly less hip abduction strength compared with the control group (P=.007). However, TPPRT did not result in increased force production.

CONCLUSIONS:
Subjects with PFP have a higher prevalence of MTrPs in bilateral GMe and QL muscles. They demonstrate less hip abduction strength compared with controls, but the TPPRT did not result in an increase in hip abduction strength.

2- Effect of ischemic compression on trigger points in the neck and shoulder muscles in office workers: a cohort study.

Cagnie B[1], Dewitte V, Coppieters I, Van Oosterwijck J, Cools A, Danneels L

J Manipulative Physiol Ther. 2013 Oct;36(8):482-9.

***OBJECTIVE**:*

The purpose of this study was to determine the **short-term effect of ischemic compression** (IC) for trigger points (TPs) on muscle strength, mobility, pain sensitivity, and disability in office workers and the effect on disability and general pain at 6-month follow-up.

METHODS:

Nineteen office workers with mild neck and shoulder complaints received 8 sessions of IC in which deep pressure was given on the 4 most painful TPs identified during examination. Outcome measures were general neck and shoulder complaints on a Numeric Rating Scale, Neck Disability Index (NDI), neck mobility (inclinometer), muscle strength (dynamometer), and pain sensitivity (Numeric Rating Scale and algometry). Subjects were tested at baseline (precontrol), after a control period of no treatment of 4 weeks (postcontrol), and after a 4-week intervention training (posttreatment). At 6-month follow-up, pain and disability were inquired.

RESULTS:

The results showed a statistically significant decrease in general neck/shoulder pain at posttreatment (P = .001) and at 6-month follow-up (P = .003) compared with precontrol and postcontrol. There was no significant main effect for NDI scores. Pressure pain threshold increased at posttreatment in all 4 treated TPs (P < .001). There was a significant increase in mobility and strength from precontrol/postcontrol to posttreatment (P < .05).

CONCLUSION:

This study has demonstrated that a **4-week treatment of TPs for IC resulted in a significant improvement** in general neck and shoulder complaints, pressure pain sensitivity, mobility, and muscle strength in the short term in a small sample of office workers with mildly severe chronic pain. At 6-month follow-up, there was a further decrease in general pain, but no change in NDI scores.

KEYWORDS:

Muscle Strength; Muscles; Myofascial Pain Syndromes; Range of Motion; Trigger Point

3- Comparison of the short-term outcomes between trigger point dry needling and trigger point manual therapy for the management of chronic mechanical neck pain: a randomized clinical trial.

Llamas-Ramos R[1], Pecos-Martín D, Gallego-Izquierdo T, Llamas-Ramos I, Plaza-Manzano G, Ortega-Santiago R, Cleland J, Fernández-de-Las-Peñas C.

J Orthop Sports Phys Ther. 2014 Nov;44(11):852-61.

STUDY DESIGN*: Randomized clinical study.*
OBJECTIVES*:*
To compare the effects of trigger point (TrP) dry needling (DN) and TrP manual therapy (MT) on pain, function, pressure pain sensitivity, and cervical range of motion in subjects with chronic mechanical neck pain.
BACKGROUND:
Recent evidence suggests that TrP DN could be effective in the treatment of neck pain. However, no studies have directly compared the outcomes of TrP DN and TrP MT in this population.
METHODS:
Ninety-four patients (mean ± SD age, 31 ± 3 years; 66% female) were randomized into a TrP DN group (n = 47) or a TrP MT group (n = 47). Neck pain intensity (11-point numeric pain rating scale), cervical range of motion, and pressure pain thresholds (PPTs) over the spinous process of C7 were measured at baseline, postintervention, and at follow-ups of 1 week and 2 weeks after treatment. The Spanish version of the Northwick Park Neck Pain Questionnaire was used to measure disability/function at baseline and the 2-week follow-up. Mixed-model, repeated-measures analyses of variance (ANOVAs) were used to determine if a time-by-group interaction existed on the effects of the treatment on each outcome variable, with time as the within-subject variable and group as the between-subject variable.

RESULTS:
The ANOVA revealed that participants who received TrP DN had outcomes similar to those who received TrP MT in terms of pain, function, and cervical range of motion.
The 4-by-2 mixed-model ANOVA also revealed a significant time-by-group interaction (P<.001) for PPT: patients who received TrP DN experienced a greater increase in PPT (decreased pressure sensitivity) than those who received TrP MT at all follow-up periods (between-group differences: posttreatment, 59.0 kPa; 95% confidence interval [CI]: 40.0, 69.2; 1-week follow-up, 69.2 kPa; 95% CI: 49.5, 79.1; 2-week follow-up, 78.9 kPa; 95% CI: 49.5, 89.0).

CONCLUSION:
The results of this clinical trial suggest that 2 sessions of TrP DN and TrP MT resulted in similar outcomes in terms of pain, disability, and cervical range of motion. Those in the TrP DN group experienced greater improvements in PPT over the cervical spine.
Future trials are needed to examine the effects of TrP DN and TrP MT over long-term follow-up periods.
LEVEL OF EVIDENCE:
Therapy, level 1b. KEYWORDS: dry needling; manual therapy; neck pain; trigger points

4- Effectiveness of Dry Needling for Myofascial Trigger Points Associated With Neck and Shoulder Pain: A Systematic Review and Meta-Analysis.

Liu L[1], Huang QM[2], Liu QG[1], Ye G[3], Bo CZ[1], Chen MJ[1], Li P[4].

Arch Phys Med Rehabil. 2015 Jan 7

OBJECTIVE:

To evaluate current evidence of the effectiveness of dry needling of myofascial trigger points (MTrPs) associated with neck and shoulder pain.

DATA SOURCES:

PubMed, EBSCO, Physiotherapy Evidence Database, ScienceDirect, The Cochrane Library, ClinicalKey, Wanfang Data Chinese database, China Knowledge Resource Integrated Database, Chinese Chongqing VIP Information, and SpringerLink databases were searched from database inception to January 2014.

STUDY SELECTION:

Randomized controlled trials were performed to determine whether dry needling was used as the main treatment and whether pain intensity was included as an outcome. Participants were diagnosed with MTrPs associated with neck and shoulder pain.

DATA EXTRACTION:
Two reviewers independently screened the articles, scored methodological quality, and extracted data. The results of the study of pain intensity were extracted in the form of mean and SD data. Twenty randomized controlled trials involving 839 patients were identified for meta-analysis.
DATA SYNTHESIS:
Meta-analyses were performed using RevMan version 5.2 and Stata version 12.0. The results suggested that compared with control/sham, ***dry needling of MTrPs was effective in the short term (immediately to 3 days)*** *(standardized mean difference [SMD]=-1.91; 95% confidence interval [CI], -3.10 to -.73; P=.002) and medium term (SMD=-1.07; 95% CI, -1.87 to -.27; P=.009); however, wet needling (including lidocaine) was superior to dry needling in relieving MTrP pain in the medium term (SMD=1.69; 95% CI, .40-2.98; P=.01).* ***Other therapies (including physiotherapy) were more effective than dry needling in treating MTrP pain in the medium term (9-28d) (SMD=.62; 95% CI, .02-1.21; P=.04).***

CONCLUSIONS:
Dry needling can be recommended for relieving MTrP pain in neck and shoulders in the short and medium term, but wet needling is found to be more effective than dry needling in relieving MTrP pain in neck and shoulders in the medium term.

5- Acupuncture and dry needling in the management of myofascial trigger point pain: a systematic review and meta-analysis of randomised controlled trials.

Tough EA[1], White AR, Cummings TM, Richards SH, Campbell JL

Eur J Pain. 2009 Jan;13(1):3-10.

STUDY DESIGN: Systematic review.

BACKGROUND:
Pain from myofascial trigger points is often treated by needling, with or without injection, although evidence is inconclusive on whether this is effective.
We aimed to review the current evidence on needling without injection, by conducting a systematic literature review.

METHODS:
We searched electronic databases to identify relevant randomised controlled trials, and included studies where at least one group were treated by needling directly into the myofascial trigger points, and where the control was either no treatment, or usual care; indirect local dry needling or some form of placebo intervention. We extracted data on pain, using VAS scores as the standard.

RESULTS:
Seven studies were included. One study concluded that direct dry needling was superior to no intervention. Two studies, comparing direct dry needling to needling elsewhere in the muscle, produced contradictory results. Four studies used a placebo control and were included in a meta-analysis.
Combining these studies (n=134), **needling was not found to be significantly superior to placebo (standardised mean difference, 14.9 [95%CI, -5.81 to 33.99])**, however marked statistical heterogeneity was present (I(2)=88%).

In conclusion, there is limited evidence deriving from one study that deep needling directly into myofascial trigger points has an overall treatment effect when compared with standardised care. Whilst the result of the meta-analysis of needling compared with placebo controls does not attain statistically significant, the overall direction could be compatible with a treatment effect of dry needling on myofascial trigger point pain. However, the limited sample size and poor quality of these studies highlights and supports the need for large scale, good quality placebo controlled trials in this area

6- Electroacupuncture in fibromyalgia: results of a controlled trial.

Deluze C, Bosia L, Zirbs A, Chantraine A, VischerTL.

BMJ, 1992, 305:1249-52.

STUDY DESIGN: Randomised controlled trial.

Abstract

***Objective*—To determine the efficacy of electroacupuncture in patients with fibromyalgia, a syndrome of unknown origin causing diffuse musculoskeletal pain.**

***Design*—Three weeks' randomised study with blinded patients and evaluating physician.**

***Setting*—University divisions of physical medicine and rehabilitation and rheumatology, Geneva.**

***Patients*—70 patients (54 women) referred to the division for fibromyalgia as defined by the American College of Rheumatology.**

***Interventions*—Patients were randomised to electroacupuncture (n=36) or a sham procedure (n=34) by means of an electronic numbers generator.**

***Main outcome measures*—Pain threshold, number of analgesic tablets used, regional pain score, pain recorded on visual analogue scale, sleep quality, morning stiffness, and patient's and evaluating physician's appreciation.**

***Results*—Seven of the eight outcome parameters showed a significant improvement in the active treatment group whereas none were improved in the sham treatment group. Differences between the groups were significant for five of the eight outcome measures after treatment.**

***Conclusions*—Electroacupuncture is effective in relieving symptoms of fibromyalgia. Its potential in long term management should now be studied.**