VMO training for patellofemoral joint dysfunction
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- The vastus medialis obliquus (VMO) has long been considered to be implicated in patellofemoral joint dysfunction. This is mostly due to its anatomy and function as a medial stabilizer of the patellofemoral joint and the clinical observation of its wasting in individuals with anterior knee pain. Therefore, many physical therapy interventions have focused on training the VMO as part of the rehabilitation.
- Randomised controlled trials (RCT)s and Systematic Reviews have revealed that generalised strengthening programs that target the quadriceps are effective in the management of patellofemoral joint dysfunction (McMullen, Roncarati et al. 1990; Stiene, Brosky et al. 1996; Thomee 1997; Timm 1998; Witvrouw, Lysens et al. 2000; Schneider, Labs et al. 2001; Bizzini, Childs et al. 2003; Heintjes, Berger et al. 2003; Witvrouw, Danneels et al. 2004)
- Specific training, or retraining of the neuro-motor control of the VMO may be required for individuals with recalcitrant or recurrent symptoms.
- VMO re-training follows the usual guidelines for motor retraining programs.
- VMO re-training is efficacious in the management of patellofemoral joint dysfunction (Crossley, Bennell et al. 2002) and can improve the onset of VMO activity (Cowan, Bennell et al. 2002; Cowan, Bennell et al. 2003).

References


A CRITICAL REVIEW OF COMMON INTERVENTIONS FOR PATELLOFEMORAL JOINT DYSFUNCTION

The role of taping in the treatment of patellofemoral pain
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- Taping the patella was first advocated by Jenny McConnell, as a means of improving patellar alignment and the activity in the vastus medialis obliquus (McConnell 1986). Since this original paper, patellar taping has increasingly been adopted by clinicians and has been subjected to a variety of laboratory and clinical trials.
- Patellar taping has been demonstrated to have significant and clinically meaningful immediate effects on reducing patellofemoral pain (Handfield and Kramer 2000; Herrington 2001; Cowan, Bennell et al. 2002; Ng and Cheng 2002; Salsich, Brechter et al. 2002; WIlson, Carter et al. 2003; Christou 2004).
- Despite the significant immediate effects of taping on patellofemoral pain, the mechanisms behind the pain relief remains unclear. Proposed taping effects include:
  - Changes in patellar alignment
  - Improvements in quadriceps function
  - Improvements in the onset or magnitude of vasti EMG activity
  - Improvements in proprioception
- The longer term effects of using patellar taping as an adjunct to physical therapy programs has been evaluated in clinical trials and the results are equivocal. Earlier studies found additional benefit of patellar taping (Kowall, Kolk et al. 1996; Clark, Downing et al. 2000), while a more recent paper found significantly greater pain relief in the individuals in the patellar taping group(Whittingham, Palmer et al. 2004).
- Based on the available evidence, how should we use patellar taping in our clinical practice?

References


