Disclaimer

The author is not currently practicing in the health/fitness field. The "client" is a friend of the author's. The author poses the hypothetical situation: "Within my scope of practice, this is how I would best address the client's issues and the objectives of this assignment".

Prolonged/Stationary Standing Occupational Hazards

Individuals with occupations requiring prolonged/stationary standing (e.g. foodservice, super-market and industrial workers) for over 50% of the work-period were 300% more likely to develop heel-pain or some type of plantar fasciopathy (Halim & Rahman Omar, 2012; Ryan, Hartwell, Fraser, Newsham-West, & Taunton, 2014). Typical complaints also included: lower back pain; leg fatigue/discomfort (e.g. nonstop eccentric contraction of soleus, tight gastrocnemius associated with 57% of plantar fasciitis cases); hallux rigidus (HR) or "Chef's Foot"; foot discomfort; and reduced blood circulation in the lower extremities (CPCSM, 2013; Halim et al., 2012; Ryan et al., 2014; Splichal, 2012).

Client Description

Mr. V is a 38 year old sous-chef working 12+ hours daily at retirement home. He is a double black-belt karate expert, and studies Brazilian jiu-jitsu. Mr. V is a mesomorph in relatively good health/fitness with a few complaints: job stress; overall "stiffness" or lack of mobility particularly in the ankle and hip; leg fatigue; mild HR; and recurring moderate plantar fasciitis (PF) (diagnosed years ago). He is not in physical therapy nor is experiencing "clinical-pain". He has a moderate anterior pelvic tilt (APT), and normal foot arch.

Corrective Rationale

Splichal (2012) noted that 57% of plantar fasciitis was associated with tight calf muscles. Splichal (2012) outlined a thought process for PF: perform ankle open-closed chain range of motion (ROM) assessment, and determine if the soleus or gastrocnemius is the greater contributor to hypomobility; is there a structural issue (e.g. bony block, high arches); is there another imbalance up-down the kinetic chain influencing PF such as APT (e.g. Thomas test, overactive hip flexors).

After assessing Mr. V and in accordance with Splichal's (2012) methodology, addressing Mr. V's ankle and hip hypomobility via his tight gastrocnemius and overactive hip flexor should produce effective initial results.

These initial exercises reflect my whole-person philosophy that a local issue can have a global effect, regional interdependence. One would want to address ergonomics and footwear as well, but these are beyond the scope of this assignment.

"Reset" Corrective Exercises

1. Trigger point and self-myofascial release.

Progression. For all trigger point and self-myofascial release exercises, the client should start with a "softer" implement or in a position that is [partially] supported to avoid full bodyweight until the exercise is better tolerated. Progressively select a firmer implement (or one with less surface area) and/or increase the "force" or pressure applied (e.g. allow more bodyweight in some positions).

Regression. If the client feels the exercise is too intense, eliciting a pain response, then he/she should revert back to a softer tool and/or apply less pressure.

Recommended implements: soft, moderate, and firm balls (dog toys, lacrosse, tennis ball); handheld massage stick; softer to firmer foam rollers (and textured rollers for more intensity).

a. Gastrocnemius trigger point. Davies and Davies (2013), p. 267-270, figures 10.23 to 10.28.

b. Calf-"foam roll-calf". Verstegen and Williams (2014), p. 277.

c. Rectus femoris and tensor fascia latae trigger point. Davies and Davies (2013), p. 225-226 (rectus femoris), p. 220-222 (tensor fascia latae).

d. Tensor fascia latae-"trigger point TFL". Verstegen and Williams (2014), p. 290.

e. Quadriceps-"massage stick-quadriceps". Verstegen and Williams (2014), p. 284.

f. Quadriceps-"foam roll-quadriceps". Verstegen and Williams (2014), p. 280.

2. Static stretch for quad and hip flexor.

Refer to "quad/hip flexor stretch-half kneeling with lateral flexion", Verstegen and Williams (2014), p. 286. Progress from a to c; regress from c to a.

Progression 1.

a. Perform the half-kneeling quad/hip flexor stretch without lateral flexion (arms down or holding onto a support for balance if needed).

Important cuing: contract the glutes, engage the core/trunk muscles (like getting ready to be punched in the stomach); and slightly tilt the pelvis posteriorly if needed; remain "tall"; envision the knee going into the ground and at the same time experiencing a lift/pull upward--creating "space" (masses and spaces) at the hip crease.

Progression 2.

b. Raise the ipsilateral arm with lateral flexion to the opposite side.

Progression 3.

c. Raise the ipsilateral foot against the wall or place on a block.

Attempt to progress the exercise only if you can consistently do it with perfect form, balanced, slow and controlled and without pain. There should never be pain. Progress if you do not feel an adequate stretch.

3. "Spidermans".

Refer to "reverse lunge-forearm to instep with rotation", Verstegen and Williams (2014), p. 175.

Progression 1.

a. Assume the plank (elbow extended) position (or push-up position). Step in with your right foot as close to your right hand (or past) as possible.

b. Sink down (e.g. flex elbows as if trying to do a small push up) to increase the intensity of the stretch on the left hip flexor.

c. Return to the plank position.

Progression 2.

d. Follow steps a-b. Try to place your right forearm/elbow to touch the ground or try to "thread" it under the left arm (lower-right photo).

e. Return to plank.

Progression 3.

f. Follow step d) by raising your right arm "to the sky" toward your right (lower-left photo).

g. Return to plank, and repeat on the other side.

Important cuing: do not try to overarch the back in an attempt to get a greater stretch (low back strain); keep the pace slow and controlled.

Attempt to progress the exercise only if you can consistently do it with perfect form, balanced, slow and controlled and without pain. There should never be pain. Progress if you do not feel an adequate stretch.

Reference

Davies, C., & Davies, A. (2013). *The trigger point therapy workbook: Your self-treatment guide for pain relief.* Oakland, CA: New Harbinger Publications, Inc.

Halim, I., & Rahman Omar, A. (2012). Development of prolonged standing strain index to quantify risk levels of standing jobs. *International Journal of Occupational Safety and Ergonomics*, 18(1), 85-96.

Ryan, M., Hartwell, J., Fraser, S., Newsham-West, R., & Taunton, J. (2014). Comparison of a physiotherapy program versus dexamethasone injections for plantar fasciopathy in prolonged standing workers: A randomized clinical trial. *Clinical Journal of Sport Medicine*, *24*(3), 211-217.

Splichal, E. (2012, December 28). *Is isolated gastroc stretching adequate for plantar fasciitis?*[Video file]. Retrieved from https://youtu.be/O6JK3S4vxAc

The Center for Podiatric Care and Sports Medicine (CPCSM). (2013, January 8). Osteoarthritis and hallux rigidus or "Chef's Foot": A recipe for relief - healing feet - master chefs and foot problems: Foot arthritis management and treatment. Retrieved from http://healingfeet.com/foot-care/osteoarthritis-and-hallux-rigidus-or-%E2%80%9Cchef%E2%80%99s-foot%E2%80%9D-a-recipe-for-relief

Verstegen, M., & Williams, P. (2014). *Every day is game day: The proven system of elite performance to win all day, every day.* New York, NY: The Penguin Group.