Management of recent onset tendon-related pain in a primary contact setting: A survey of practice

Mitham K, Mallows A, Yeowell G, Littlewood C.

1 | INTRODUCTION

Tendon-related pain is a common musculoskeletal condition characterised by pain during an activity which applies load to a tendon (Rio et al., 2014). For example, pain related to Achilles tendon-related pain can be commonly experienced with heel raises and pain related to the rotator cuff can be commonly experienced with lifting the arm away from the body. Tendon-related pain affects a wide range of people and affects both function and quality of life (Grimaldi et al., 2015; Malliaras et al., 2015). A wide range of treatments are used to treat people with tendon-related pain, including exercise therapy, injection therapy, shockwave therapy and acupuncture (Mitham et al., 2021; Vlist, et al., 2020).

Why some people with recent onset tendon-related pain recover and others go on to experience persistent pain and disability is unclear. One unknown factor is whether management decisions during early consultations influence prognosis. Passive treatments, such as complete rest, have a high variability in tendon load, and may lead to persistent pain and disability in runners with Achilles tendon-related pain (Cardoso et al., 2019; Lagas et al., 2020), suggesting a possible link between treatment and persisting symptoms, and the need to consider this further.

To allow early access to expert musculoskeletal treatment, a recent change has been the evolution of the role of First contact practitioners (FCP) within the NHS (Addley et al., 2010; NHS England, 2019). FCPs are physiotherapists working directly in GP practices and treating people with musculoskeletal problems.

The practice of this wide range of healthcare professionals within a primary contact setting for people with recent onset tendonrelated pain has not been investigated. Given the potential importance of initial management strategies, it is important to understand healthcare professional's current practice and any variability between FCPs and other clinicians (OCs). This survey aimed to report the practice used by different healthcare professionals for two recent onset tendon-related pain scenarios in a primary contact setting. A secondary aim of the survey was to understand if practice differed between locations of pain.

2 | MATERIALS AND METHODS

2.1 | Design

We undertook a cross-sectional online survey hosted by Qualtrics

2.2 | Survey development

The survey was designed by the study team with reference to two scenarios that reflect recent onset tendon-related scenarios in the shoulder and Achilles (Table 1). Recent onset was defined as less than three-month duration. The shoulder and Achilles were chosen as locations due to the high prevalence in upper limb and lower limb tendon pain (Littlewood et al., 2013; Riel et al., 2019).

The survey was piloted by three members of the study team and two clinical physiotherapists. The survey was then modified accordingly, including adding 'not applicable' responses where indicated and amalgamating questions and changing wording to improve flow and understanding. Based on the findings from the pilot testing, the survey took less than 10 min to complete. The survey was open for one month to 17 December 2020.

2.3 | Participants

We recruited a convenience sample of healthcare professionals, of any professional background, involved in the management of recent onset musculoskeletal conditions in a primary contact setting, for example, GPs, physiotherapists including FCPs, and chiropractors. Potential respondents were invited to participate via personal email, professional networks, and Twitter.

2.4 | Data analysis

Ethical approval to conduct this research was granted by the University Ethics Science and Health Faculty, University of X (ETH2021-0325). Data were exported from Qualtrics to IBM SPSS Statistics, version 25, and Microsoft Excel. The difference in proportion of responses between the shoulder and Achilles scenarios, and between FCPs and OCs were analysed using the Chi-Square test. Statistical significance was set at $p \leq 0.05$. For questions which allowed multiple answers, analysis between FCPS and OCs, descriptive statistics were presented.

3 | RESULTS

In total, 118 surveys were completed; 103 (87%) respondents completed both scenarios and 118 (100%) respondents completed just the first. The response by professional background is shown in Table 2. The descriptive data from the survey is displayed in Appendix 1.

3.1 | Diagnosis

Rotator Cuff Related Shoulder Pain (RCRSP) was the preferred diagnostic term by 64/118 (54.2%) for the shoulder scenario. Achilles tendinopathy was the preferred term by 86/103 (83.5%) for the Achilles scenario.

3.2 | Management

Rest was not advised for the shoulder or Achilles scenario by 96/118 (81.4%) and 73/103 (70.9%) respondents, respectively. The difference between scenarios for rest was not statistically significant ($p = 0.07$). Rest was not advised by 18/23 (78.3%) FCPs, and 77/95 (81.1%) OCs for the shoulder scenario. Rest was not advised by 13/23 (65.0%) FCPs and 60/83 (72.3%) OCs for the Achilles scenario. The difference between FCPs and OCs advising rest for the shoulder and Achilles was not statistically significant ($p = 0.44$; $p = 0.54$).

Medication was not recommended by 53/118 (44.9%) for the shoulder scenario and 66/103 (64.1%) for the Achilles. Non-opioid medication was recommended by 53/118 (44.9%) for the shoulder scenario and 28/103 (27.2%) for the Achilles. The difference between scenarios regarding medication was not statistically significant ($p = 0.1$). NSAIDs were recommended by 3/23 (13.0%) FCPs compared to 5/95 (5.3%) OCs for the shoulder scenario ($p = 0.006$). NSAIDs were recommended by 4/20 (20.0%) FCPs compared to 4/83 (4.8%) OCs for the Achilles scenario ($p = 0.046$) (Table 3).

Injections were not recommended by 113/118 (95.8%) for the shoulder scenario and 103/103 (100%) for the Achilles.

Amended duties were advised for manual workers by 37/118 (31.4%) in the shoulder scenario and 14/103 (13.6%) for the Achilles. The difference between scenarios regarding return to work was statistically significant ($p = <0.0001$). This difference was not observed for office workers ($p = 0.49$). There was no statically significant difference in the management of return to work for manual workers between FCPs and OCs for the shoulder scenario ($p = 0.65$) or the Achilles ($p = 0.97$).

3.3 | Treatment modalities

Adjuncts to exercise were not recommended by 44/118 (37.3%) for the shoulder scenario and 39/103 (37.9%) for the Achilles, respectively. Nine different adjuncts were recommended at least once. ‘Ice and/or heat’ was the most popular modality advised, 52/118 (44.1%) for the shoulder scenario and 52/103 (50.5%) for the Achilles. ‘Massage’ was selected by 4/118 (3.4%) for the shoulder scenario and 14/103 (13.6%) respondents for the Achilles. There was no statistically significant difference between the two scenarios regarding the use of adjuncts to exercise ($p = 0.782$).

Exercise was recommended by 116/118 (98.3%) for the shoulder scenario and 102/103 (99%) for the Achilles. Isometric and isotonic exercises were the most popular treatment advised for both scenarios (Figure 1). Eccentric exercises were recommended by 22/118 (18.6%) of the respondents for the shoulder scenario compared to 35/103 (34.0%) for the Achilles. Heavy slow resistance exercises were recommended by 17/118 (14.4%) of the respondents for the shoulder scenario compared to 29/103 (28.2%) respondents for the Achilles. There was no statistically significant difference between the two scenarios ($p = 0.086$).

3.4 | Lifestyle factors

The role of obesity was discussed by 82/118 (69.5%) for the shoulder scenario compared to 95/103 (94.1%) for the Achilles (Figure 2). The role of alcohol was discussed by 60/118 (51.7%) for the shoulder scenario and 55/103 (54.5%) for the Achilles.

3.5 | Psychosocial factors

Occupational factors were discussed by 111/118 (94.1%) for the shoulder scenario compared to 87/118 (84.5%) for the Achilles. Support of friends and family was discussed by 70/118 (59.3%) for the shoulder scenario and 59/103 (57.3%) for the Achilles.

3.6 | Prognosis

Resolution of symptoms within one month was expected by 18/118 (15.3%) for the shoulder scenario compared to 8/103 (7.8%) for the Achilles. Resolution of symptoms within one to two months was expected by 51/118 (43.2%) for the shoulder scenario compared to 29/103 (28.2%) for the Achilles (Figure 3). Resolution of symptoms within one month was expected for the shoulder scenario by 1/23 (4.3%) FCP compared to 17/95 (17.9%) OCs (Figure 4).

A follow up visit with a healthcare professional was advised recommended by 102/118 (86.4%) for the shoulder scenario and 91/103 (88.3%) for the Achilles. A follow-up appointment was advised by 84/95 (88.4%) and 75/83 (90.4%) OCs for the shoulder and Achilles scenarios, respectively. A follow-up appointment was advised by 18/23 (78.3%) and 16/20 (80.0%) FCPs for the shoulder and Achilles scenarios, respectively.

4 | DISCUSSION

We conducted a survey to investigate current practice in relation to recent onset tendon-related pain in a primary contact setting. To the authors' knowledge, this is the first survey to investigate this and compare both FCPs and OCs, and different locations of pain for management of recent onset tendon-related pain.

Despite both scenarios being identical except the location in pain, there were significant differences in the approach to the management, prognosis, and recommendations for modifications in workload. Reasons for the difference of management are uncertain, but it is suggested that a similar approach between healthcare professionals to recent-onset atraumatic musculoskeletal conditions should be adopted (Caneiro et al., 2020).

Diagnostic labels may influence patients understanding, expectations and beliefs regarding musculoskeletal conditions (Carroll et al., 2016). This survey highlighted some uncertainty regarding diagnostic label due to a wider range of diagnostic labels suggested for the shoulder scenario compared to the Achilles. This is unsurprising; recent expert consensus was gained for the diagnostic label for the Achilles tendon-related pain, but consensus could not be reached for tendon-related pain at the shoulder (Scott et al., 2020). Nevertheless, clinicians should be aware the impact of language and diagnostic labels they use with patients and how it may influence understanding, behaviour and therefore outcomes from treatment (Cuff & Littlewood, 2018).

NSAIDs are frequently prescribed drugs to ease pain and reduce inflammation for recent-onset musculoskeletal conditions (NHS, 2019). Paracetamol and/or NSAIDs are recommended in the early stage of both shoulder tendon-related pain and Achilles tendonrelated pain, but are not recommended in the longer term (NICE, 2017, 2020). Maquirriain and Kokalj (2014) found significant improvement in pain intensity for recent-onset Achilles tendonrelated pain when treated with NSAIDs. NSAIDs have been shown to be superior to placebo but there is no evidence about how they compare to other treatments such as exercise for shoulder tendonrelated pain (Steuri et al., 2017). In this survey, FCPs were more likely to recommend NSAIDs for both scenarios compared to OCs.

Imaging is not considered necessary for a clinical diagnosis of tendon-related pain, and should only be used for differential diagnosis (Scott et al., 2020). The majority of respondents did not recommend further investigations or steroid injections for the either scenario. This compares favourably to the management of shoulder tendon-related pain by GPs with research reporting up to 53% of new shoulder tendon-related pain presentations being referred by GPs for imaging (Naunton et al., 2020).

Healthcare professionals have an important role in the returnto-work process for people complaining of shoulder and Achilles tendon-related pain and early intervention has been suggested a key

recommendation (Doiron-Cadrin et al., 2020). Amended duties were more likely to be recommended for the shoulder scenario compared to the Achilles for manual workers ($p < 0.0001$). Given our understanding of the negative impact of not being at work for other musculoskeletal conditions (Foster et al., 2018), exploring reasons for this advice for would be beneficial.
Isometric exercises were the most popular for both scenarios, despite the limited evidence of effectiveness (Mitham et al., 2021; Vlist et al., 2020). Both eccentric and heavy slow resisted exercises were preferred for Achilles scenario, despite current research suggesting no superiority between exercises (Head et al., 2019; Vlist et al., 2020; Van Der Vlist et al., 2020). This is particularly interesting given the majority of respondents recommended a follow up visit with a healthcare professional for both scenarios. The wide variety of exercise modalities chosen by the participants, suggests further research is needed to improve our understanding around treatment effectiveness for recent onset tendon-related pain, including a wait and see approach.

Moderate alcohol consumption has been suggested as a potential risk factor for Achilles tendon-related pain (Van Der Vlist et al., 2019), as well as metabolic factors for both shoulder and Achilles tendon-related pain (Burne et al., 2019; O'Neill et al., 2016). Respondents in this survey were more likely to discuss obesity, smoking and physical activity for the Achilles scenario compared to the shoulder, despite the association between these factors and shoulder pain (Rechardt et al., 2010; Özkuk & Ateş, 2020). In nonathletic individuals, metabolic factors have been suggested to be more prevalent and can negatively influence the recovery of tendonrelated pain with exercise treatment (Millar et al., 2021).

In regards to resolution of symptoms, the difference between FCPs and OCs was not statistically significant, but we observed a trend towards OCs recommending a more favourable recovery. Improvement in Achilles tendon-related pain can be observed after 12 weeks of a loading exercise program, but some people may still have ongoing pain and reduced function (Murphy et al., 2018). Discussions between clinicians and patients are important in healthcare. The respondents in this survey may have been too optimistic for an earlier recovery as 43.2% of respondents expected resolution of symptoms within 1–2 months for the shoulder scenario. Patients want clear and consistent information regarding prognosis for musculoskeletal pain (Lim et al., 2019). It is important clinicians provide clear and consistent information regarding prognosis to facilitate realistic expectations for patients (Lim et al., 2019).

4.1 | Study limitations

The limited number of self-selected responders means the results might not be generalisable to the wider population of clinicians involved in the management of recent onset tendon-related pain in a primary care setting. Recruitment for this survey was conducted, in part, via Twitter which may have excluded healthcare professionals who do not use this platform or other platforms instead. Survey studies are also susceptible to response, social and acquiescence bias as individuals with an interest are more likely to respond. However, the use of additional recruitment strategies including email and professional networks may have gone some way to mitigate this.

5 | CONCLUSION

Data from this survey highlights some consistency between clinicians in their management of recent onset tendon-related pain; the majority of clinicians recommend against further investigations, steroid injections and recommending for exercise as an intervention. Understanding whether these approaches are clinically effective requires further investigation.

AUTHOR CONTRIBUTIONS

Kieran Mitham and Adrian Mallows conceived of the idea. Kieran Mitham, Adrian Mallows and Chris Littlewood developed the study protocol and survey tool. All authors contributed to writing of the manuscript and critical review. All authors approved the final version.

CONFLICT OF INTEREST

All authors declare they have no competing interests.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

Addley, K., Burke, C., & McQuillan, P. (2010). Impact of a direct access occupational physiotherapy treatment service. Occupational Medicine, 60(8), 651–653. https://doi.org/10.1093/occmed/kqq160

Burne, G., Mansfield, M., Gaida, J. E., & Lewis, J. S. (2019). Is there an association between metabolic syndrome and rotator cuff-related shoulder pain? A systematic review. BMJ Open Sport and Exercise Medicine, 5(1). https://doi.org/10.1136/bmjsem-2019-000544

Caneiro, J. P., Alaiti, R. K., Fukusawa, L., Hespanhol, L., Brukner, P., Sullivan, P. P. B. O., An, L., & Pain, A. S. (2020). There is more to pain than tissue damage : Eight principles to guide care of acute non traumatic pain in sport. British Journal of Sports Medicine, 55(2), 1–2. https://doi.

org/10.1136/bjsports-2019-101705

Cardoso, T. B., Pizzari, T., Kinsella, R., Hope, D., & Cook, J. L. (2019). Current trends in tendinopathy management. Best Practice & Research Clinical Rheumatology, 33(1), 122–140. https://doi.org/10.1016/j.berh.2019.02.001

Carroll, L. J., Lis, A., Weiser, S., & Torti, J. (2016). How well do you expect to recover, and what does recovery mean, anyway? Qualitative study of expectations after a musculoskeletal injury. Physical Therapy, 96(6), 797–807. https://doi.org/10.2522/ptj.20150229

Cuff, A., & Littlewood, C. (2018). Subacromial impingement syndrome - what does this mean to and for the patient? A qualitative study. Musculoskeletal Science and Practice, 33, 24–28.August 2017 https://doi.org/10.1016/j.msksp.2017.10.008

Doiron-Cadrin, P., Lafrance, S., Saulnier, M., Cournoyer, É., Roy, J.-S., Dyer, J.-O., Frémont, P., Dionne, C., MacDermid, J. C., Tousignant, M., Rochette, A., Lowry, V., Bureau, N. J., Lamontagne, M., Coutu, M.-F.,

Lavigne, P., & Desmeules, F. (2020). Shoulder rotator cuff disorders: A systematic review of clinical practice guidelines and semantic analyses of recommendations. Archives of Physical Medicine and Rehabilitation, 101(7), 1233–1242. https://doi.org/10.1016/j.apmr.2019.12.017

Foster, N. E., Anema, J. R., Cherkin, D., Chou, R., Cohen, S. P., Gross, D. P., Ferreira, P. H., Fritz, J. M., Koes, B. W., Peul, W., Turner, J. A., Maher, C. G., Buchbinder, R., Hartvigsen, J., Cherkin, D., Foster, N. E., Maher, C. G., Underwood, M., van Tulder, M., …, Woolf, A. (2018). Prevention and treatment of low back pain: Evidence, challenges, and promising directions. The Lancet, 391(10137), 2368–2383. https://doi.org/10.1016/S0140-6736(18)30489-6

Grimaldi, A., Mellor, R., Hodges, P., Bennell, K., Wajswelner, H., & Vicenzino, B. (2015). Gluteal tendinopathy: A review of mechanisms, assessment and management. Sports Medicine, 45(8), 1107–1119. https://doi.org/10.1007/s40279-015-0336-5

Head, J., Mallows, A., Debenham, J., Travers, M. J., & Allen, L. (2019). The efficacy of loading programmes for improving patient-reported outcomes in chronic midportion Achilles tendinopathy: A systematic review. Musculoskeletal Care, 17(4), 283–299. https://doi.org/10.1002/msc.1428

Lagas, I. F., Fokkema, T., Bierma-Zeinstra, S. M. A., Verhaar, J. A. N., van Middelkoop, M., & de Vos, R. (2020). How many runners with newonset

Achilles tendinopathy develop persisting symptoms? A large prospective cohort study. Scandinavian Journal of Medicine & Science in Sports. 30 (10). https://doi.org/10.1111/sms.13760

Lim, Y. Z., Chou, L., Au, R. T., Seneviwickrama, K. M. D., Cicuttini, F. M., Briggs, A. M., Sullivan, K., Urquhart, D. M., & Wluka, A. E. (2019). People with low back pain want clear, consistent and personalised information on prognosis, treatment options and self-management strategies: A systematic review. Journal of Physiotherapy, 65(3), 124–135. https://doi.org/10.1016/j.jphys.2019.05.010

Littlewood, C., May, S., & Walters, S. (2013). Epidemiology of rotator cuff tendinopathy: A systematic review. Shoulder & Elbow, 5(4), 256–265. https://doi.org/10.1111/sae.12028

Malliaras, P., Cook, J., Purdam, C., & Rio, E. (2015). Patellar tendinopathy: Clinical diagnosis, load management, and advice for challenging case presentations. Journal of Orthopaedic & Sports Physical Therapy, 45(11), 887–898. https://doi.org/10.2519/jospt.2015.5987

Maquirriain, J., & Kokalj, A. (2014). Acute Achilles tendinopathy: Effect of pain control on leg stiffness. Journal of Musculoskeletal and Neuronal Interactions, 14(1), 131–136.

Millar, N. L., Silbernagel, K. G., Thorborg, K., Kirwan, P. D., Galatz, L. M., Abrams, G. D., Murrell, G. A. C., McInnes, I. B., & Rodeo, S. A. (2021). Tendinopathy. Nature Reviews Disease Primers, 7(1), 1. https://doi.org/10.1038/s41572-020-00234-1

Mitham, K., Mallows, A., Seneviratne, G., Debenham, J., & Malliaras, P. (2021). Conservative management of acute lower limb tendinopathies: A systematic review. Musculoskeletal Care, 19(1). 110–126. https://doi.org/10.1002/msc.1506

Murphy, M., Travers, M., Gibson, W., Chivers, P., Debenham, J., Docking, S., & Rio, E. (2018). Rate of improvement of pain and function in mid-portion Achilles tendinopathy with loading protocols: A systematic review and longitudinal meta-analysis. Sports Medicine, 48(8), 1875–1891. http://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=130551969&site=ehost-live

Naunton, J., Harrison, C., Britt, H., Haines, T., & Malliaras, P. (2020). General practice management of rotator cuff related shoulder pain: A reliance on ultrasound and injection guided care. PloS One, 15(1), 1–14. https://doi.org/10.1371/journal.pone.0227688

NHS. (2019). NSAIDs. https://www.nhs.uk/conditions/nsaids/

NHS England. (2019). Elective care high impact interventions. First Contact Practitioner for MSK Services.

NICE. (2017). Scenario: Rotator cuff disorders | management | shoulder pain | CKS | NICE. n.d. Retrieved January 8, 2021, from https://cks.nice.org.uk/topics/shoulder-pain/management/rotator-cuff-disorders/

NICE. (2020). Scenario: Management | management | Achilles tendinopathy | CKS | NICE. https://cks.nice.org.uk/topics/achilles-tendinopathy/management/management/

O'Neill, S., Watson, P. J., & Barry, S. (2016). A Delphi study of risk factors for Achilles tendinopathy- Opinions of world tendon experts. International Journal of Sports Physical Therapy, 11(5), 684–697. http://www.ncbi.nlm.nih.gov/pubmed/27757281%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC5046962

Özkuk, K., & Ateş, Z. (2020). The effect of obesity on pain and disability in chronic shoulder pain patients. Journal of Back and Musculoskeletal Rehabilitation, 33(1), 73–79. https://doi.org/10.3233/BMR-181384

Rechardt, M., Shiri, R., Karppinen, J., Jula, A., Heliövaara, M., & Viikari-Juntura, E. (2010). Lifestyle and metabolic factors in relation to shoulder pain and rotator cuff tendinitis: A population-based study. BMC Musculoskeletal Disorders, 11. https://doi.org/10.1186/1471-2474-11-165

Riel, H., Lindstrøm, C. F., Rathleff, M. S., Jensen, M. B., & Olesen, J. L. (2019). Prevalence and incidence rate of lower-extremity tendinopathies in a Danish general practice: A registry-based study. BMC Musculoskeletal Disorders, 20(1), 4–9. https://doi.org/10.1186/s12891-019-2629-6

Rio, E., Moseley, L., Purdam, C., Samiric, T., Kidgell, D., Pearce, A. J., Jaberzadeh, S., & Cook, J. (2014). The pain of tendinopathy: Physiological or pathophysiological? Sports Medicine, 44(1), 9–23. https://doi.org/10.1007/s40279-013-0096-z

Scott, A., Squier, K., Alfredson, H., Bahr, R., Cook, J. L., Coombes, B., De Vos, R.-J., Fu, S. N., Grimaldi, A., Lewis, J. S., Maffulli, N., Magnusson, S., Malliaras, P., Mc Auliffe, S., Oei, E. H. G., Purdam, C. R., Rees, J. D.,

Rio, E. K., Gravare Silbernagel, K., …, .Zwerver, J. (2020). ICON 2019: International scientific tendinopathy symposium consensus: Clinical terminology. British Journal of Sports Medicine, 54(5), 260–262. https://doi.org/10.1136/bjsports-2019-100885

Steuri, R., Sattelmayer, M., Elsig, S., Kolly, C., Tal, A., Taeymans, J., & Hilfiker, R. (2017). Effectiveness of conservative interventions including exercise, manual therapy and medical management in adults with shoulder impingement: A systematic review and meta-analysis of RCTs. British Journal of Sports Medicine, 51(18). bjsports-2016-096515. https://doi.org/10.1136/bjsports-2016-096515

Van Der Vlist, A. C., Breda, S. J., Oei, E. H. G., Verhaar, J. A. N., & De Vos, R.-J. (2019). Clinical risk factors for Achilles tendinopathy: A systematic review. British Journal of Sports Medicine, 53(21), 1352–1361. https://doi.org/10.1136/bjsports-2018-099991

Van Der Vlist, A. C., Winters, M., Weir, A., Ardern, C. L., Welton, N. J., Caldwell, D. M., Verhaar, J. A. N., & De Vos, R.-J. (2020). Which treatment is most effective for patients with Achilles tendinopathy? A living systematic review with network meta-analysis of 29 randomised controlled trials. British Journal of Sports Medicine, 0, 1–8. https://doi.org/10.1136/bjsports-2019-101872

Vlist, A. C., Veldhoven, P. L. J., Oosterom, R. F., Verhaar, J. A. N., & Vos, R. J. (2020). Isometric exercises do not provide immediate pain relief in Achilles tendinopathy: A quasi-randomized clinical trial. Scandinavian Journal of Medicine & Science in Sports, 30(9), 1712–1721. https://doi.org/10.1111/sms.13728

TABLE 1 Presenting condition, subjective and objective findings for the shoulder and Achilles scenarios

Patient Characteristics	Referral	Duration	Aggravating Factors	Easing Factors	Physical Examination
50-year-old person	Non-traumatic right shoulder pain	3-week history	• Lifting kettle • Taking a coat on and off • Moving the arm away from the body	• Resting arm by their side • Avoiding provocative positions	• Resisted shoulder abduction and external rotation are painful. • Full passive shoulder external rotation. • Examination of neck does not reproduce shoulder pain. • No redness, bruising or swelling present.
50-year-old person	Non-traumatic right Achilles pain	3-week history	• At the start of light jogging • Stiff with prolonged rest	• Eases after a few minutes of jogging.	• Pain with palpation of mid-portion Achilles tendon. • Pain on double leg calf raise • Full passive dorsiflexion and plantarflexion • Examination of knee and does not reproduce any heel pain • No redness, bruising or swelling present.

TABLE 2 Respondents by professional background

Scenario	Professional Background *(n)*	
Shoulder *(118)*	Physiotherapist *(97)*	Physiotherapist *(69)*
		First contact practitioner *(23)*
		Advanced Practice Physiotherapist *(5)*
	General practitioner *(6)*	
	Chiropractor *(12)*	
	Sports Rehabilitator *(1)*	
	Orthopaedic Surgeon *(1)*	
	Sport & Exercise Medicine physician *(1)*	
Achilles *(103)*	Physiotherapist ***(87)***	Physiotherapist *(62)*
		First contact practitioner *(20)*
		Advanced Practice Physiotherapist *(5)*
	General practitioner *(4)*	
	Chiropractor *(9)*	
	Sports Rehabilitator *(1)*	
	Orthopaedic Surgeon *(1)*	
	Sport & Exercise Medicine physician *(1)*	

TABLE 3 Respondent's data for medication for shoulder and Achilles scenario, and FCPs and OCs

Medication	FCP Shoulder	FCP Achilles	OC Shoulder	OC Achilles
None	9/23 (39.1%)	11/20 (55.0%)	44/95 (46.3%)	55/83 (66.3%)
Non-opioid	10/23 (43.5%)	4/20 (20.0%)	43/95 (45.3%)	24/83 (28.9%)
NSAID	3/23 (13.0%)	4/20 (20.0%)	5/95 (5.3%)	4/83 (4.8%)
Mild-opioid	0/23 (0.0%)	0/20 (0.0%)	2/95 (2.1%)	0/83 (0.0%)
It depends	1/23 (4.3%)	1/20 (5.0%)	1/95 (1.1%)	0/83 (0.0%)

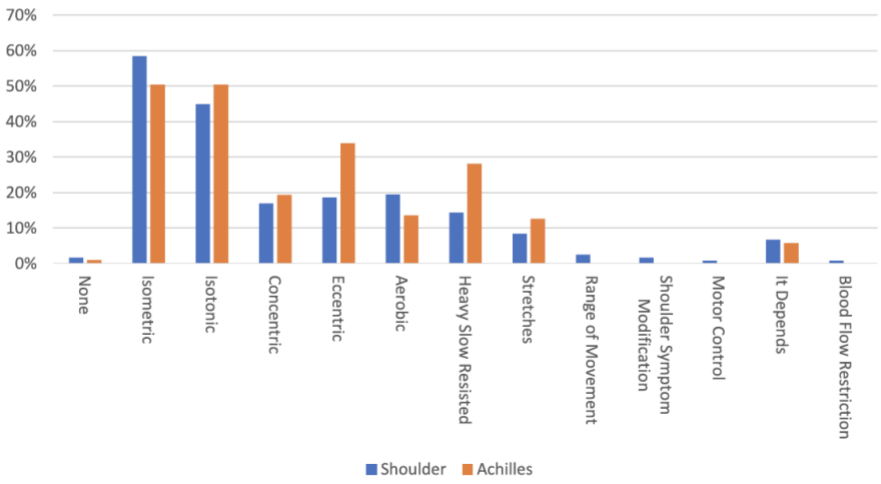

FIGURE 1 Active treatment modalities selected for the shoulder and Achilles scenarios

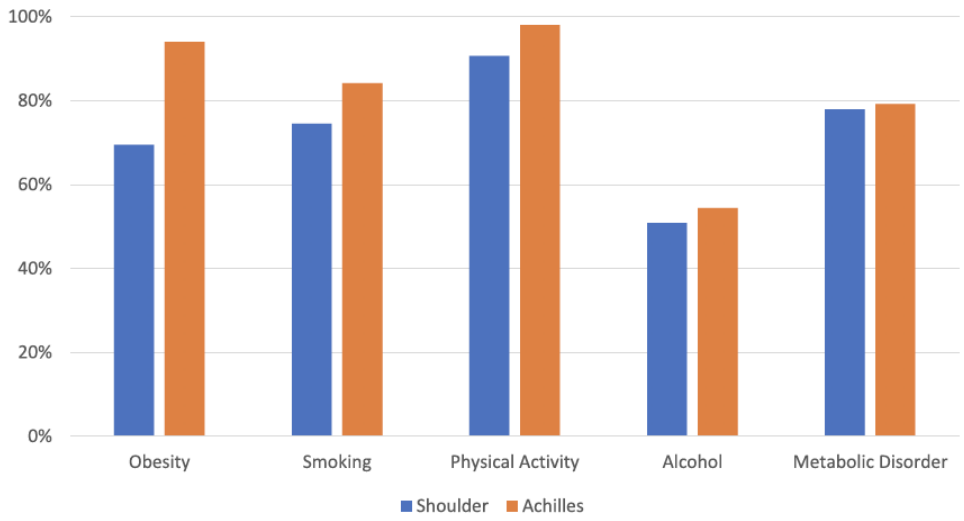

FIGURE 2 Lifestyle factors discussed by respondents for the shoulder and Achilles

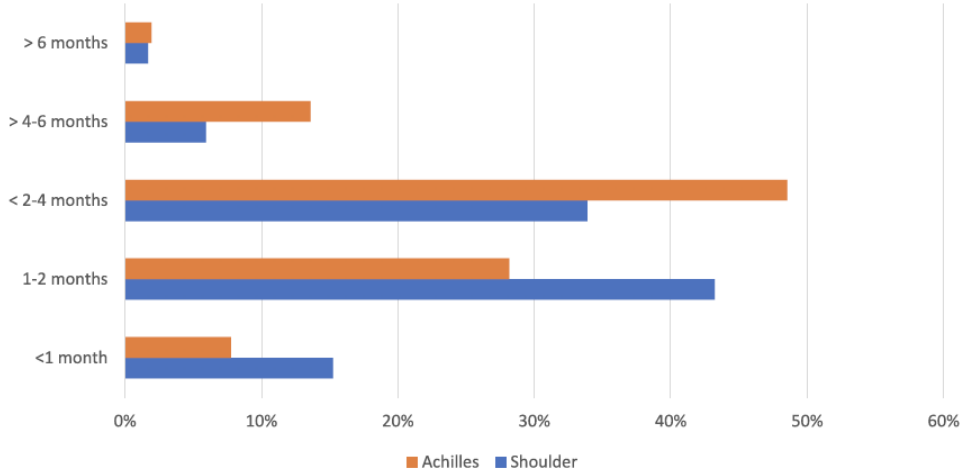

FIGURE 3 Prognosis advised by respondents for the scenarios

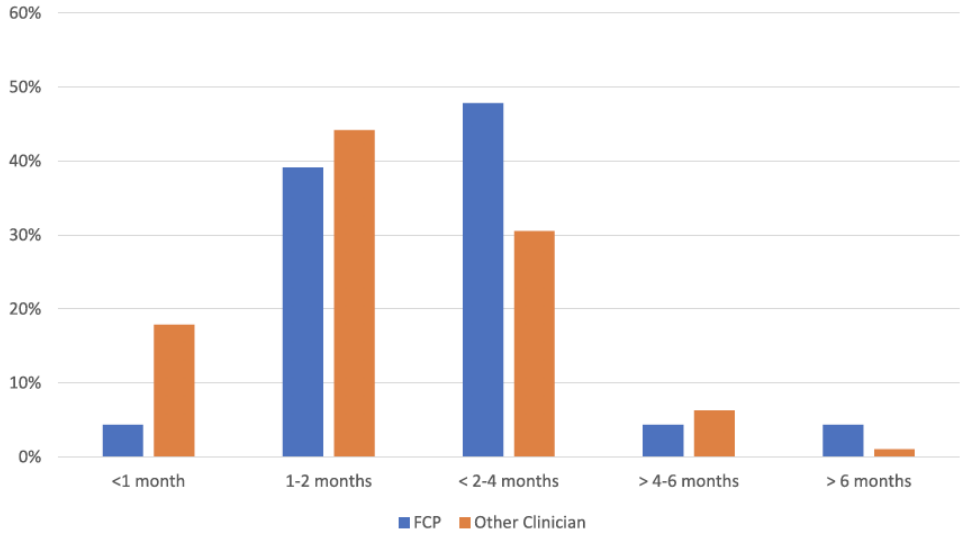

FIGURE 4 Prognosis advised by First Contact Practitioners (FCPs) and Other Clinicians (OCs) for the shoulder scenario