

TITLE: How Do UK Physical Therapists Manage Patients With Hip Osteoarthritis? Results of a Cross-Sectional Survey

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Background. Hip osteoarthritis (OA) is common, painful and disabling. Physical therapists have an important role in managing patients with hip OA, however little is known about their current management approach and whether it aligns with clinical guideline recommendations.

Objective. The objective of this study is to describe UK physical therapists' current management of patients with hip OA and to determine whether it aligns with clinical guidelines.

Design. The design is a cross-section questionnaire.

Methods. A questionnaire was mailed to 3126 physical therapists in the UK that explored physical therapists' self-reported management of a patient with hip OA using a case vignette and clinical management questions.

Results. The response rate was 52.7% (n = 1646). In total 1148 (69.7%) physical therapists had treated a patient with hip OA in the last 6 months and were included in the analyses. A treatment package was commonly provided incorporating advice, exercise (strength training 95.9%; general physical activity 85.4%) and other nonpharmacological modalities, predominantly manual therapy (69.6%), and gait retraining (66.4%). There were some differences in reported management between physical therapists based in the National Health Service (NHS) and non-NHS-based physical therapists, including fewer treatment sessions being provided by NHS-based therapists.

Limitations. Potential for non-responder bias, and in clinical practice physical therapists may manage patients with hip OA differently.

Conclusion. UK-based physical therapists commonly provide a package of care for patients with hip OA that is broadly in line with current clinical guidelines, including advice, exercise, and other nonpharmacological treatments. There were some differences in clinical practice between NHS and non-NHS based physical therapists, but whether these differences impact on clinical outcomes remains unknown.

Osteoarthritis (OA) is a common painful and disabling condition that affects up to one-third of older adults.¹ This figure is set to rise given the ageing and increasingly obese population.¹ By 2030 OA is predicted to be the greatest cause of disability in the general population.² It is also a major and increasing cause of global health care expenditure, with rising numbers of total joint replacements in part responsible for the exponential costs.³

The hip is the second most common site of OA in the lower limb after the knee, with approximately 11% of the general adult population being affected.⁴ Individuals with hip OA frequently experience persistent pain and functional limitations, as well as anxiety and depression, sleep problems, reduced work productivity, and an overall reduced quality of life.⁵⁻⁸ In the absence of a cure, current management of hip OA focuses on reducing pain and improving physical function, with multiple international clinical guidelines highlighting the importance of non-surgical, nonpharmacological treatments for patients with hip OA.^{9,10} The United Kingdom (UK) National Institute for Health and Care Excellence (NICE) OA guidelines recommend that information provision, exercise (local muscle strengthening and general aerobic fitness), and weight loss interventions (if patients are overweight or obese) are core treatments that should be offered to all patients with hip OA. They recommend that

thermotherapy (hot/cold), manual therapy (mobilization/ manipulation), electrotherapy (transcutaneous electrical nerve stimulation (TENSs)) and aids and devices can be offered as treatment adjuncts, but acupuncture should not be offered, due to a lack of evidence of clinically significant efficacy over sham acupuncture.¹¹

Within the UK National Health Service (NHS), physical therapists are the largest group of advisors for musculoskeletal problems, and as such commonly manage patients with hip OA. However, little is known about what current physical therapist practice entails for this patient group and whether this aligns with clinical guideline recommendations. It is also unknown whether clinical practice differs, and is more aligned to guideline recommendations in different groups of physical therapists, including those working in different practice settings, and in those with different levels of clinical experience. Differences in clinical practice between these groups has been identified in the management of other patient groups^{12,13} but has not yet been explored in patients with hip OA. Identifying and subsequently addressing gaps between physical therapist practice and clinical guideline recommendations, particularly in groups of therapists who need it the most, could potentially optimise treatment outcomes for patients with hip OA, and inform future research in this patient group, a priority area highlighted by the European League Against Rheumatism (EULAR).¹⁴

The aim of this study was therefore to describe the current clinical management of patients with hip OA by physical therapists in the UK to determine whether it is in line with NICE OA clinical guidelines.¹¹ It also investigated whether management differed between physical therapists working in the NHS or non-NHS settings, and between those with differing levels of clinical experience.

Methods

We conducted a descriptive cross-sectional survey in the UK. Ethical approval to complete the study was provided by Keele University. Completion and return of the questionnaire was considered informed consent. Simple random sampling of all UK physical therapists would have been the method of choice to generate a sample;¹⁵ however, no comprehensive sampling frame was available. At the time of the survey, contrary to our previous physical therapy survey,¹² access to the membership list of the Chartered Society of Physiotherapy was prohibited, which would have been the only way to generate a national sampling frame. Therefore the best available method to access a broad range of physical therapists and to provide data on current clinical practice was used. Three groups of chartered physical therapists with interests in musculoskeletal pain conditions were sampled in the UK, including a simple random sample of members of the Acupuncture Association of Chartered Physiotherapists (AACP) (which has approximately 6500 members) (n = 2485), all members of the McKenzie Institute Mechanical Diagnosis and Therapy Practitioners (MIMDTP) (n = 263), and all musculoskeletal physical therapists working in NHS sites based within the Central England (North spoke) and North West Primary Care Research Networks (PCRN) (n = 378) (PCRN is funded by the Department of Health, is part of the UK Clinical Research Network, and is designed to provide infrastructure support to facilitate high-quality clinical research studies in primary care for the benefit of patients.) A reminder postcard and reminder questionnaire was sent to all non-responders at two and four weeks, respectively.

The sample size calculation was based on comparing behavior between different groups of physical therapists (eg, NHS versus non-NHS based physical therapists). Previous work has suggested that clinical behavior not in line with current guideline recommendations may be

reported by 30% of practitioners.^{12,13} Therefore, to detect a minimum difference of 15% between groups in the proportions of those who reported a specific practice behavior (for example, use of exercise), with a significance level of .05 and a power of 90%, it was estimated that at least 450 responses would be required. Based on previous survey research with UK physical therapists (12,13,15), it was estimated that there would be approximately a 50% response rate to the questionnaire after two follow-up reminders, and that three in 10 physical therapists would have seen a patient with hip OA in the last six months. Only these physical therapists were asked to complete the survey. Therefore, in order to obtain at least 450 responses, questionnaires were posted to a total of 3126 physical therapists.

Survey Instrument

A previous questionnaire of physical therapists' management of patients with knee OA was adapted for use in this study.¹² The survey investigated physical therapists' self-reported management of a patient with hip OA using a case vignette and clinical management questions. In line with existing literature,¹⁶⁻¹⁸ the case vignette was based on a real patient receiving treatment from a physical therapist and represented a patient with moderate hip OA. The vignette was tested with 10 physical therapists before being included in the final questionnaire. Questions sought information on how respondents would manage the patient described in the vignette, including their assessment, treatment approach, and pattern of treatment (eg, number of treatment sessions provided). Questions were predominantly of closed format, however they also included the option of 'other, please specify' if a suitable category was not available. The survey also captured demographic and practice data (see eAppendix, available at <https://academic.oup.com/ptj>, for a copy of the questionnaire).

Data Analyses

Data analyses were carried out using Stata version 14.1 (StataCorp LLC, College Station, Texas, USA). Descriptive statistics were used to summarise physical therapists' characteristics and their reported management of the vignette patient. Odds ratios and 95% confidence intervals were used to investigate whether differences in practice behavior between different groups of physical therapists were statistically significant, including those with varying levels of clinical experience (measured by years since qualification), and those working exclusively in the NHS or combined NHS and non-NHS settings versus those working exclusively in non-NHS settings. Only results with a *P* value < .001 are discussed to reduce the chance of reporting statistically significant findings arising solely from the number of statistical tests completed (due to multiple response options within the questionnaire). As the survey sample was not a simple random sample of all UK physical therapists, exploratory comparisons of reported treatment approaches between the three groups sampled (AACCP, MIMDTP, PCRN) were also undertaken. Similarities in management across these groups may provide support for the generalisability of the results.¹⁵

Role of Funding

The funders did not influence the study design or the writing of this article. The views expressed in this publication are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health.

Results

The survey response rate was 52.7% (n = 1646). Of those, 1148 (69.7%) reported having treated a patient with hip OA in the last 6 months and were included in the analyses. *Missing data levels throughout the questionnaire were low, typically being 3% or less for any one question. Missing data were excluded from analyses.* Two questions relating to the vignette had missing data levels of 9.9% (use physical measures as part of assessment) and 6.6% (use specific tools as part of assessment). Number of years of clinical experience was missing in 13% of the questionnaires. Overall, item completion levels were considered to be very good. The characteristics of respondents are shown in Table 1. Overall, the majority of survey respondents were female (77.4%) and highly experienced, with 62.4% having at least 15 years of clinical experience. Thirty nine percent of physical therapists worked exclusively in the NHS and 35.4% worked exclusively in non-NHS settings, with the remainder working in combined health care settings (25.6%). Approximately 40.6% of all respondents reported having received postgraduate training specifically on hip OA, although more had received postgraduate training on exercise therapy (68.6%).

Reported Management Approach

Examination. As shown in Table 2, the majority of respondents reported that they would like an investigation for the patient with hip OA, predominantly an x-ray of the painful hip (67.7%). Nearly all physical therapists would use a physical measure in their assessment of the patient, including hip range of motion (98.6%), hip and lower limb muscle strength (90.9%), and physical tests to rule out other diagnoses (82.9%). Patient self-reported tools or questionnaires were also used by the majority of respondents (76.2%), most commonly a visual analogue scale (77.3%). Performance-based measures of function (such as a test of chair sit to stand and stair ascent/descent) were less commonly used (42.3%). There were

some differences in the reported assessment approach between different groups of physical therapists. For each extra year of experience, physical therapists were 1% more likely to use physical tests to rule out other diagnoses (OR (95% CI): 1.01 (1.01, 1.05)), and 3% more likely to use repeated movements of the hip (OR (95% CI): 1.03 (1.01, 1.05)). Physical therapists who worked either exclusively in the NHS or in a combined NHS and non-NHS setting, were less likely to measure balance (OR (95% CI): 0.64 (0.49, 0.84)), and more likely to use the Oxford Hip Score to assess the patient with hip OA (OR (95% CI): 2.05 (1.43, 2.93)) than those who worked either exclusively in non-NHS settings or in combined NHS and non-NHS settings.

Treatment approaches. All physical therapists would provide advice as part of their treatment, commonly on pacing of activities (95.0%), footwear (71.6%) and weight loss (70.4%) (Fig. 1). More experienced physical therapists were more likely to provide advice on nutrition (OR (95% CI): 1.02 (1.01, 1.04)) and footwear (OR (95% CI): 1.03 (1.02, 1.05)) than less experienced physical therapists. As shown in Figure 2, nearly all physical therapists provided exercise (97.7%), although predominantly alongside other interventions including manual therapy (hip manipulation/ mobilization) (69.6%) and gait retraining (66.4%). Acupuncture was reportedly used by 59.0% of physical therapists, although this reduced to 24.1% when members of the AACP were excluded from the analysis (due to this group being more likely to use this intervention, as described below). There were a number of differences in the treatments provided by different groups of physical therapists. More experienced physical therapists were more likely to provide electrotherapy (OR (95% CI): 1.04 (1.02, 1.06)) and lumbar spine manipulation/ mobilization (OR (95% CI): 1.03 (1.01, 1.04)) than those with less experience. Physical therapists working exclusively in the NHS or in combined NHS and non-NHS settings were more likely to provide a walking aid (OR (95%

CI): 1.70 (1.32, 2.18)), but less likely to provide 'hands on' techniques than those working exclusively in non-NHS settings, including lumbar spine mobilization/ manipulation (OR (95% CI) 0.24 (0.18, 0.32)), acupuncture (OR (95% CI) 0.31 (0.24, 0.41)), taping (OR (95% CI) 0.23 (0.14, 0.38)), massage (OR (95% CI) 0.12 (0.08, 0.17)), and trigger point techniques (OR (95% CI) 0.35 (0.27, 0.44)).

Type and delivery of therapeutic exercise. The majority of physical therapists would include both muscle strengthening exercises (95.9%) and general physical activity (85.4%) as part of their exercise program. Over 90% of physical therapists reported they would provide written information on home exercises during the initial treatment session. Verbal advice on home exercises and supervision of exercise was provided by approximately 83.6% and 61.4% of all physical therapists respectively. During follow-up treatment sessions, provision of written and verbal advice decreased (written advice: 66.8 verbal advice: 65.2%) and supervision of exercise increased (71.4%). Physical therapists with a higher number of years of clinical experience were less likely to provide functional task training (OR (95% CI): 0.98 (0.96, 0.99)) or refer on to a student/ assistant or technical instructor during follow up sessions (OR (95% CI) 0.95 (0.93, 0.96)) than less experienced physical therapists. NHS-based (exclusive or combined with non-NHS) physical therapists were less likely to use Pilates exercise (OR (95% CI) 0.42 (0.33, 0.55)), and less likely to supervise exercise during follow-up sessions (OR (95% CI) 0.58 (0.44, 0.77)), but more likely to refer on to an exercise group/student/assistant/ technical instructor both in the initial (OR (95% CI) 13.88 (4.34, 44.41)) and follow-up sessions (OR (95% CI) 6.24 (4.09, 9.51)) than physical therapists working exclusively in non-NHS settings.

Monitoring exercise adherence. Nearly all (98.9%) physical therapists reported that they would monitor exercise adherence, mainly through observation of the exercise technique (95.0%), verbal questioning (87.4%), and changes in objective measures (80.5%). Less than 25% of all physical therapists reported they would use an exercise diary, and less than 12% would use a telephone review to monitor adherence.

Pattern of treatment. As shown in Table 3, the majority of physical therapists reported that they would treat the patient with hip OA for at least five weeks (85.2%), but only 39.3% would provide five or more treatment sessions for the patient. Physical therapists working exclusively in the NHS or in combined NHS and non-NHS settings were less likely to provide 5 or more treatment sessions than those working exclusively in non-NHS settings (OR (95% CI): 0.28 (0.21, 0.36)).

Differences between sampling groups (AACP, MIMDTP, PCRN). The reported treatment use was broadly similar across all three groups of physical therapists sampled. As shown in the eTable (available at <https://academic.oup.com/ptj>), exercise was clearly the most common treatment reported by respondents from all groups (AACP:97.3%; MIMDTP:100%; PCRN:97.7%). Over half of all respondents in all groups reported using hip manipulation/mobilization (AACP:73.6%; MIMDTP:64.9%; PCRN:52.9%) and gait retraining (AACP:64.6%; MIMDTP: 67.5%; PCRN:74.4%). The one area in which reported practice differed markedly between groups was in the reported use of acupuncture; respondents from AACP were more likely to report the use of acupuncture (70.6%) compared with respondents from MIMDTP (22.8%) and those identified via the PCRN (25.0%).

Discussion

This is the most robust investigation to date of physical therapy management of patients with hip OA. The data provide useful information on whether current clinical guidelines¹¹ and physical therapist practice for this patient group are aligned. Identifying gaps between clinical practice and guideline recommendations has the potential to optimise outcomes from physical therapy treatment for patients with hip OA, and inform future priority research areas in this field¹⁴.

Patient Assessment

Reported management of the patient with hip OA was based on an individualised assessment that included both physical measures such as joint range of movement and muscle strength, and self-report measures or questionnaires of pain and function. The specific tools used to assess the patient varied, which may reflect the fact that no gold standard assessment exists in people with OA.¹⁹ Performance-based tests of physical function for people with hip OA were not commonly used, despite Osteoarthritis Research Society International (OARSI) recommending them as a core outcome measure for patients with hip and knee OA.²⁰ This may reflect lack of knowledge about such tests, a view that performance measures do not add anything to self-report measures of function, or may reflect limited time to complete performance-based tests. Approximately 68% of physical therapists wanted a hip x-ray for the vignette patient. This is not currently deemed necessary for a clinical diagnosis of OA and is contrary to the UK NICE OA clinical guidelines.¹¹ This may highlight a lack of confidence or knowledge in physical therapists' ability to diagnose hip OA, and could reflect the fact that less than half of physical therapists had received postgraduate training in the field of hip OA.

Use of Exercise Therapy

Exercise (commonly muscle strengthening exercise and general physical activity) was nearly always prescribed for the patient with hip OA. It was provided as both written advice, supervised in clinic, and advised to be completed at home. This is in line with current clinical guidelines for OA,¹¹ and strong evidence supports the beneficial effects of land-based exercise of on pain and function for patients with hip OA immediately following treatment and three to six months later.²¹ Specific exercise programs, including ESCAPE-Pain²² and Good Life with osteoArthritis in Denmark (GLA:D),²³ have also shown promise in patients with hip OA, however, gaps in the evidence still exist in relation to the optimal way to deliver exercise for patients with hip OA.^{24,25} Although nearly all physical therapists reported that they would monitor exercise adherence, this was mainly through observation of exercise technique, changes in objective measures and verbal questioning. Although in-expensive and easy to implement, each of these methods has limitations. Self-reported adherence may be over-estimated, exercise technique may be different when supervised in clinic to when completed at home alone, and change in objective measures as a proxy measure of exercise adherence assumes a direct relationship between adherence and outcome, despite outcomes being influenced by a range of factors, for example use of co-interventions (eg, analgesics).¹² Use of an exercise diary is also in-expensive and easy to implement, and may offer additional advantages, including allowing the patient to self-monitor exercise and activity habits and their link to symptoms.²⁶ However, it still remains unknown about how best to monitor and facilitate adherence to exercise for patients with hip OA.

Package of Care

Alongside exercise, advice (on pacing of activities, analgesic use, footwear and use of heat/ice at home), and other nonpharmacological interventions (manual therapy and gait retraining) were often provided by physical therapists. Currently, gait retraining does not

feature in clinical guidelines for OA, neither in the UK¹¹ nor internationally^{9,10} and to date only small, low quality, RCTs or pilot studies have tested its effectiveness (eg, Segal et al²⁷ and Hunt and Takacs²⁸). As gait retraining was so commonly used, the effectiveness of this intervention for hip OA warrants further investigation. Although the NICE OA guidelines recommend manual therapy for patients with hip OA, recent systematic reviews have shown mixed results regarding the effectiveness of exercise combined with manual therapy for improving pain and function in this group. One systematic review demonstrated short-term effectiveness,²⁹ whereas another found no short or long-term additional benefits.³⁰ A lack of effect of combined treatment may be due to an antagonistic interaction between the two interventions, or an inability in the time available to deliver an adequate dose of either, therefore not allowing the full effect of interventions to be achieved.³⁰ However, it may simply reflect the limited evidence base available. Before firm clinical recommendations can be made regarding the optimal package of care for patients with hip OA (exercise alone, or exercise combined with manual therapy, or exercise combined with gait retraining), further large scale, high quality trials are needed.

Pattern of Treatment

Physical therapy was mostly provided for a period of at least five weeks for the patient with hip OA and commonly delivered in up to five treatment sessions (61%). Whether up to five treatment sessions is sufficient to treat patients with long-term conditions such as hip OA is questionable, given that significant behavior change is necessary to get people exercising effectively over the long-term, and exercise interventions in clinical trials for patients with hip OA are often delivered over many more than five treatment sessions.²¹

Comparison Between Groups of Physical Therapists

Overall the reported management of the patient with hip OA was similar amongst all groups of physical therapists, with all groups providing a package of care in line with clinical guideline recommendations that included advice, exercise (both strengthening exercise and general physical activity), and other forms of nonpharmacological treatment, predominantly manual therapy and gait retraining. However, there were also some differences, which were most marked in physical therapists who worked in the NHS (either exclusively or in combination with a non-NHS setting) in comparison to those working exclusively in non-NHS settings. This included some differences in assessment techniques and delivery of exercise (with NHS-based physical therapists being more likely to refer the patient on to others to complete the exercise program and less likely to supervise exercise during follow-up treatment sessions than physical therapists working exclusively in non-NHS settings), less use of 'hands on' treatments, and fewer treatment sessions being provided by physical therapists who worked in the NHS. These differences may be due to differences between the NHS and private health care settings systems, for example different models of funding, or pressures within the NHS to discharge patients sooner due to waiting list numbers and financial constraints.¹² Whether these differences impact on outcomes from treatment remain unknown.

Comparison to Other Research

Our findings are similar to three previous small scale studies exploring physical therapists' management of patients with hip OA, conducted in Australia, Ireland and the Netherlands; all identified frequent use of exercise, advice and manual therapy.³¹⁻³³ Collectively, these

surveys suggest that patterns of care may be similar internationally, although the number of treatment sessions provided may differ between countries, reflecting differences in health care settings. A survey exploring reported management of knee OA by UK physical therapists also identified the most common package of care included advice, exercise, and other nonpharmacological treatments, predominantly heat/ ice.¹² In comparison to this study however, fewer physical therapists reported they would use manual therapy to treat a patient with knee OA (36%).¹² This again highlights the need for further high quality studies exploring the effects of treatment combinations specifically for patients with hip OA.

Clinical and Research Implications

Physical therapy management of patients with hip OA in the UK is broadly in line with current clinical guidelines that recommend individualised treatment, advice, exercise and a range of other nonpharmacological treatments.¹¹ However, physical therapists may benefit from further training to increase their knowledge or confidence in their ability to diagnose hip OA without the need for an x-ray, and about the role of performance-based tests of function, and which are best to use within clinical practice.²⁰ This study has also underlined the need for further high quality trials testing the effectiveness of commonly used nonpharmacological treatments specifically for patients with hip OA, particularly for combined treatment approaches including exercise with manual therapy, or exercise with gait retraining, and how to robustly measure exercise adherence. This would help to inform physical therapists about the optimal management approach for patients with hip OA.

Strengths and Limitations

The overall response rate was in line with other similar surveys of physical therapist practice^{12,13,15} and the number of applicable responses was higher than originally anticipated, providing a large sample size adequate for this primarily descriptive study. However, it is possible that non-response bias may have been present as physical therapists with an interest in hip OA may have been more likely to complete the questionnaire. As no information was available on non-responders (eg, years in practice, sex, work setting), it is not possible to estimate the potential effect of non-response bias on the survey estimates.

At the time of conducting this survey it was not possible to access a national sampling frame, the method of choice to generate a survey sample.¹⁵ In sampling physical therapists from two professional networks covering the whole of the UK, and different regions within the NHS, a broad range of physical therapists were targeted, thus increasing likely generalisability of findings. However, physical therapists who are not members of professional networks, and working in other geographical areas in the UK may have reported managing the patient with hip OA differently.

In comparison with a previous survey of UK physical therapists which focused on knee OA, and was conducted when a simple random sample of all physical therapists' was possible,¹² a similar proportion of respondents to both surveys were female and overall had high levels of clinical experience. There were fewer respondents to this survey who worked exclusively in NHS settings, however this could reflect recent changes in the structure of healthcare provision in the UK rather than the sampling strategy.¹⁵ The reported treatment of the patient with hip OA was similar across all three groups sampled, with the exception of the reported use of acupuncture, which was much higher in physical therapists recruited from the AACP in comparison to those from the MIMDTP or via the PCRN. Given that AACP is a professional network of physical therapists trained and interested in acupuncture, this finding

is unsurprising. However, with this exception, the results of this survey are likely to be reasonably generalisable to the wider UK physical therapy population.

Finally, clinical practice within this study was self-reported based on a vignette, a method commonly used to capture information on clinical behavior relatively quickly and in large samples.^{16-18,34-37} This approach has a number of advantages including easy administration, low cost, and the ability to manipulate variables of interest (for example, severity of pain or functional limitations) thus allowing comparison across different groups of health care professionals.³⁸ In addition, vignettes have been shown to reliably assess clinical behavior and are more accurate than extracting data from case notes.³⁵ However, as vignettes invoke an essentially 'artificial' situation, responses may not reflect the actual behavior that would occur in real practice³⁸ and they may also be subject to social desirability bias whereby the respondent reports what they think is the correct or most desirable answer.³⁸ In addition, as questions seeking information on how respondents would manage the vignette were predominantly of closed format, some management options may have been over-reported. Therefore, in clinical practice physical therapists may manage patients with hip OA slightly differently.

Conclusion

Physical therapists in the UK commonly provide a package of care for patients with hip OA that is broadly in line with current clinical guidelines, including advice, exercise (including core components of strengthening and general physical activity), and other nonpharmacological treatments. However, contrary to UK NICE guidance, the majority of physical therapists would have liked a hip x-ray to aid diagnosis. There were some differences in clinical practice between different groups of physical therapists, particularly in

those working exclusively in the NHS or combined health care settings in comparison to those working in exclusively non-NHS settings, but whether these differences impact on clinical outcomes remains unknown.

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Ethics Approval

Ethical approval to complete the study was provided by Keele University. Completion and return of the questionnaire was considered informed consent.

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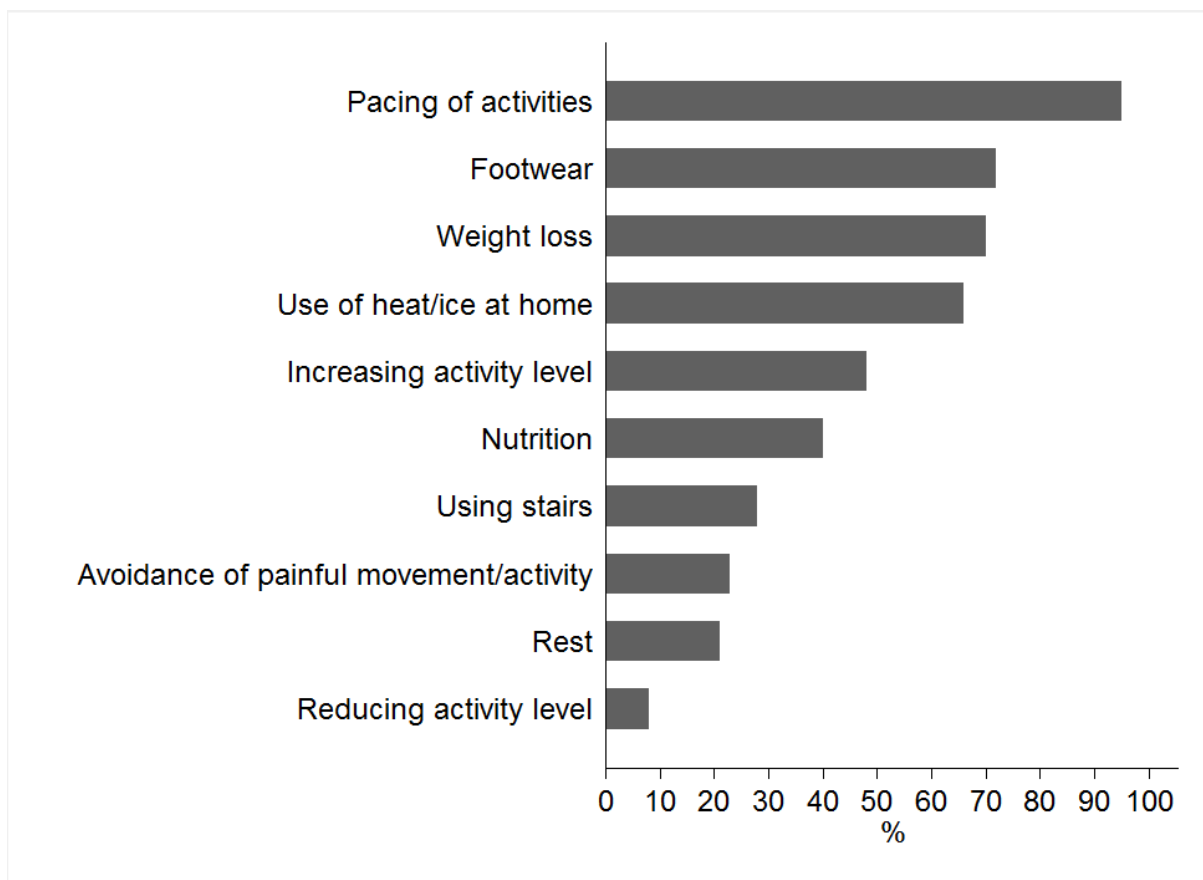


Figure 1
Advice provided for the vignette patient with hip osteoarthritis.

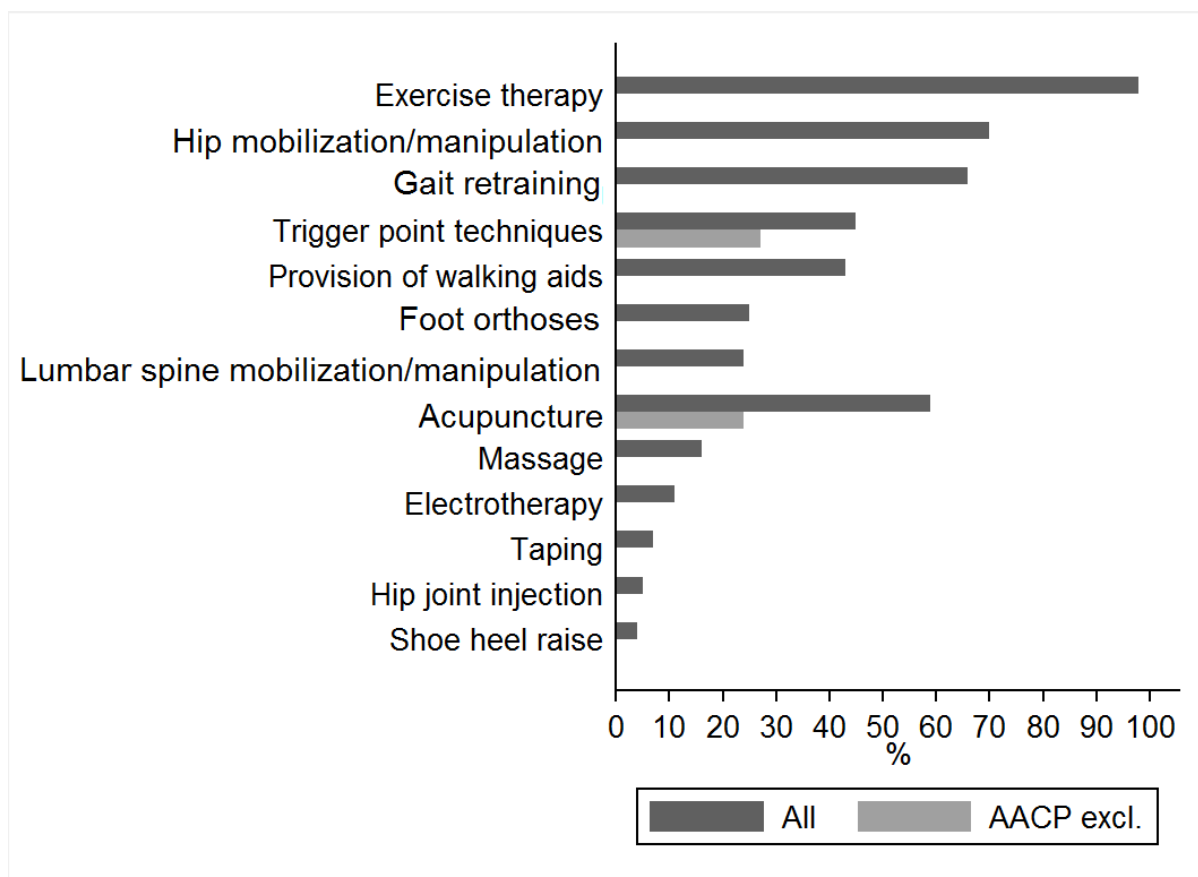


Figure 2

Treatment approach for the vignette patient with hip osteoarthritis. Sensitivity analysis was completed by including and excluding physical therapists sampled via the Acupuncture Association of Chartered Physiotherapists (AACP) when determining percentage of UK therapists who reported they would use acupuncture and trigger point techniques to treat the patient with hip osteoarthritis.

Table 1

Physical Therapists' Characteristics^a

	Total (n = 1148)
Men	258 (22.6)
Clinical experience, years: median (IQR)	18 (11, 28)
Work setting	
Exclusively in the NHS	446 (39.0)

Exclusively in non-NHS settings	405 (35.4)
Combination	292 (25.6)
Proportion of current caseload made up of primary care patients	
None	97 (8.7)
Less than 50%	189 (17.0)
50% or more	496 (44.5)
All	332 (29.8)
Frequency treating patients >45years old with hip OA	
Infrequently (at most 1 in last 6 months)	100 (8.8)
Somewhat frequently (2-5 in last 6 months)	523 (45.8)
Frequently (at least 1 per month)	335 (29.4)
Very frequently (at least 1 per week)	183 (16.0)
Postgraduate training ^b	
Hip OA	462 (40.6)
Exercise therapy	777 (68.6)

^aValues are the number (percentage) unless otherwise stated. IQR = Interquartile range; NHS = National Health Service; OA = osteoarthritis.

^b Either a day/weekend course with no formal assessment, course, or module with formal assessment, or a Master's level qualification or equivalent

Table 2
Assessment of the Patient with Hip Osteoarthritis^a

	N (%)	OR (95% CI): Clinical Experience (Per Unit Increase in Years Experience)	OR (95% CI): Work Setting (Exclusively NHS or Combined NHS and Non-NHS vs Exclusively Non-NHS)
Investigations			
X-ray of the painful hip	777 (67.7)	1.01 (0.99, 1.02)	0.83 (0.64, 1.07)
None	304 (26.5)	0.99 (0.98, 1.00)	1.31 (0.99, 1.73)
X-ray of other area	163 (14.2)	1.00 (0.98, 1.02)	0.90 (0.64, 1.27)

Laboratory tests	103 (9.0)	0.99 (0.97, 1.01)	0.81 (0.54, 1.23)
Special imaging	50 (4.4)	0.99 (0.96, 1.02)	0.45 (0.25, 0.8) ²
Physical Measures	1027 (99.3)	0.99 (0.91, 1.09)	1.41 (0.31, 6.31)
Hip range of motion	1013 (98.6)	1.04 (0.98, 1.12)	0.75 (0.23, 2.40)
Hip and lower limb strength	933 (90.9)	1.01 (0.99, 1.03)	1.33 (0.86, 2.05)
Test to exclude other diagnosis	851 (82.9)	1.03 (1.01, 1.05) ^d	0.64 (0.45, 0.92) ^b
A balance test	590 (57.5)	1.02 (1.01, 1.03) ^c	0.64 (0.49, 0.84) ^d
Thomas test ³⁹	587 (57.2)	1.01 (1.00, 1.03)	1.03 (0.80, 1.34)
Faber test ³⁹	571 (55.6)	0.99 (0.97, 1.00) ^b	0.81 (0.62, 1.05)
Quadrant tests ³⁹	559 (54.4)	0.98 (0.97, 1.00) ^b	0.68 (0.52, 0.88) ^c
Repeated movements of the hip ³⁹	240 (23.4)	1.03 (1.01, 1.04) ^d	1.11 (0.81, 1.50)
Hip scour ³⁹	178 (17.3)	1.02 (1.00, 1.04)	0.81 (0.58, 1.13)
Self-Report Tools or Questionnaires of Pain and Function	816 (76.2)	0.99 (0.98, 1.01)	1.35 (1.01, 1.80) ^b
Visual analogue scale/ numeric rating scale	631 (77.3)	1.01 (0.99, 1.03)	0.58 (0.40, 0.84) ^c
Oxford Hip Score ⁴⁰	215 (26.4)	0.97 (0.95, 0.99) ^c	2.05 (1.43, 2.93) ^d
Patient-Specific Functional Scale ⁴¹	179 (21.9)	1.00 (0.99, 1.02)	0.95 (0.67, 1.35)
Lower Extremity Functional Indices (LEFS) ⁴²	73 (9.0)	0.97 (0.95, 1.00)	0.80 (0.49, 1.32)
Hip Disability and Osteoarthritis Outcome Score (HOOS) ⁴³	36 (4.4)	0.95 (0.91, 0.99) ^b	0.79 (0.40, 1.57)
Western Ontario and McMaster Universities Arthritis Index (WOMAC) ⁴⁴	17 (2.1)	0.90 (0.83, 0.97) ^c	2.41 (0.69, 8.47)
Copenhagen Hip and Groin Outcome Score (HAGOS) ⁴⁵	11 (1.4)	0.89 (0.79, 1.00) ^b	0.05 (0.01, 0.39) ^c

Hip Outcome Score (HOS) ⁴⁶	9 (1.1)	0.96 (0.88, 1.06)	1.02 (0.25, 4.10)
Modified Harris Hip score ⁴⁷	8 (1.0)	0.97 (0.90, 1.06)	0.51 (0.13, 2.04)
International Hip Outcome Tool (iHot-33) ⁴⁸	1 (0.1)	-	-
Performance-Based Tests of Function	485 (42.3)	1.02 (1.01, 1.03) ^c	0.84 (0.66, 1.07)
A test of chair sit/stand	380 (37.0)	1.02 (1.00, 1.03) ^b	0.89 (0.68, 1.15)
A test of stair climb/descent	161 (15.7)	1.05 (1.03, 1.06) ^c	0.80 (0.57, 1.13)
Timed "Up and Go" (TUG) test ⁴⁹	38 (3.7)	0.99 (0.96, 1.03)	2.43 (1.06, 5.58) ^b
Six-Minute Walk Test ⁵⁰	19 (1.9)	1.02 (0.97, 1.07)	0.59 (0.24, 1.46)

^aValues are the number (percentage) unless otherwise stated. Individual items may not add to totals due to missing data. NHS = National Health Service.

^b.01 < *P* < .05

^c.001 < *P* < .01

^d*P* < .001

Table 3
Pattern of Treatment Provided for the Patient with Hip Osteoarthritis^a

	N (%)	Clinical Experience		Clinical Setting		
		Median years	Odds Ratio (95% CI)	NHS (exclusively NHS or combined NHS and non-NHS)	Exclusively Non-NHS	Odds Ratio (95% CI)
No. of times typically see this patient						
Once	18 (1.6)	18 (13, 31)		17 (2.3)	1 (0.3)	

Twice	63 (5.5)	20 (11, 30)		59 (8.0)	4 (1.0)	
3-4 times	613 (53.7)	18 (11, 27)		452 (61.4)	161 (40.1)	
5-6 times	373 (32.7)	18.5 (11, 29)		184 (25.0)	185 (46.0)	
7-8 times	56 (4.9)	17 (11, 27)		18 (2.5)	38 (9.5)	
> 8 times	19 (1.7)	16.5 (11, 21.5)		6 (0.8)	13 (3.2)	
<i>In summary: 5 times or more</i>	448 (39.3)	18 (11, 28)	1.00 (0.99, 1.02) ^b	208 (28.3)	236 (58.7)	0.28 (0.21, 0.36) ^{d,e}
Over the time period the patient would be typically seen						
1-2 wk	36 (3.2)	15.5 (11, 23)		27 (3.7)	9 (2.2)	
3-4 wk	131 (11.6)	18 (11, 26)		83 (11.5)	48 (11.9)	
5-6 wk	278 (24.6)	22 (13, 30)		160 (22.1)	117 (29.1)	
7-8 wk	292 (25.8)	19 (11, 28)		190 (26.2)	101 (25.1)	
9-10 wk	233 (20.6)	18 (11, 27)		157 (21.7)	75 (18.7)	
More than 10 wk	160 (14.2)	15 (10, 22)		107 (14.8)	52 (12.9)	
<i>In summary: 5 wk or more</i>	963 (85.2)	18 (11, 28)	1.01 (0.99, 1.03) ^c	614 (84.8)	345 (85.8)	0.92 (0.65, 1.30) ^f

^aValues are the number (percentage) unless otherwise stated. Individual items may not add to totals due to missing data. NHS = National Health Service.

^bFor each 1-year increase in clinical experience, the increased likelihood of seeing the patients 5 times or more.

^cFor each 1-year increase in clinical experience, the increased likelihood of seeing the patients for 5 weeks or more

^dLikelihood of physical therapists working within the NHS seeing the patient 5 times or more compared to physical therapists working exclusively in non-NHS setting.

^e $P < .001$

^fLikelihood of physical therapists working within the NHS seeing the patient for 5 weeks or more compared to physical therapists working exclusively in non-NHS setting.