

Guideline for healthcare professionals on the management of upper limb disorders in working-age people

Background

- Prevalence of upper limb disorders (ULDs) is very high in the general population, with up to one in two people experiencing symptoms in the neck or arm each week (2, 16)
- Symptoms are often recurrent and present in more than one region at a time (adjacent sites or bilaterally) (2)
- Most ULDs are difficult to diagnose accurately, however, exact diagnosis does not usually change management (2, 10)
- Influencing factors can include prolonged repetitive tasks, awkward postures, sustained or excessive force, lack of suitable rest breaks, use of power tools, and poor organisational or environmental factors. Exposure to these factors does not mean that an individual will develop upper limb pain (17)

Exclusion criteria

- This guideline does not apply to fractures, hand–arm vibration syndrome (HAVS), rheumatological or systemic connective tissue disease, vasculitis, or circulatory problems
- Evidence regarding cumulative exposure to repetitive actions and excessive force as causative factors is limited (2, 5). Therefore, some diagnostic labels, such as “repetitive strain injury” (“RSI”) that suggest that the mechanism of injury is due to a certain activity and that rest is required to resolve it (10) are generally unhelpful and should be avoided (2)
- Although ULDs cause difficulties with normal activities, most workers, for most episodes, with the correct support, should be able to remain at work (2)



Symptoms of ULDs which commonly affect function

- Reduced range of movement and stiffness (17)
- Pain and tenderness (17)
- Weakness (17)
- Altered sensation (numbness, tingling) (17)

Assessment

- To include general OH principles (18)
- A biopsychosocial approach should be taken, paying particular attention to limitations in function or movement that could affect the individual's ability to perform their working tasks, or safety critical roles

Management of ULDs

- The way to regain normal activity is often the same no matter what the diagnosis is (10)
- Early activity improves pain and stiffness, can speed up a return to full function (2) and lead to better long-term outcomes (4)
- A cognitive behavioural and multi-disciplinary approach has been shown to have favourable outcomes in both the short and long term, with psychosocial factors strongly influencing the success of occupational outcomes (2)
- Successful recovery is difficult if a person has fixed, negative health beliefs, does not receive reassurance, avoids activities and becomes anxious or depressed (10)
- Work with the patient to set realistic goals to return to full function (10)

Treatment approaches

- A stepped approach to care should be used, encouraging self-management of symptoms and staying active (2, 3, 10)
- Proactive symptomatic relief is advocated using regular, over-the-counter pain relief and/or anti-inflammatory medication, heat or cold, massage, stretches, exercise to reduce pain or a combination of all (10) to allow appropriate levels of activity (2)
- Modify any aggravating activities as required rather than advocating rest (2, 3, 10)
- Resting and avoiding use of the arm leads to loss of flexibility and muscle strength (10). By contrast, movement stimulates blood flow, providing the chemicals required for the healing process and prevents muscle wasting (10)
- Exercise therapy is supported as a first-line treatment (14)
- If the patient does not improve, they may benefit from corticosteroid injections (7) or other therapies and should be referred to a suitable health practitioner (10). Surgery is rarely required for arm pain

Positive messages and health beliefs

- Provide reassurance by normalising discomfort. Provide information about the fact that many people suffer with upper limb pain and that it is expected that they can make a good return to activities with the right approach
- Fear avoidance and catastrophising increases pain and disability (6, 11)
- Give reassurance that an increase in symptoms on return to work is unlikely to mean harm in most cases
- When managing arm pain, the belief that “work causes injury” through a gradual build-up of strain over time is incorrect, proven by the fact that not every person performing the same job suffers with pain or injury (10). This can be true for certain pathologies, such as carpal tunnel syndrome or tenosynovitis, which can be related to the use of tools, but most people will not experience these problems (10)
- Use positive, activity-based language, such as “TRY TO STAY ACTIVE” and encourage the patient to continue with normal day-to-day activities, as far as possible.
- Avoid terms such as “REST”; instead use terms such as “MODIFIED ACTIVITY”
- Minor setbacks are to be considered normal as improvements are made, this can cause frustration and the patient must be aware of this possibility and reassured (10)

Workplace management

- Short or long-term modification to aspects of work may include: reduced hours if strenuous activity is involved, regular change in activity, avoiding over-reaching, reduced weight of items handled, increased breaks, avoiding activities that aggravate the condition (10), working from home, and providing specialist equipment. These should help most people to remain at work, or return to work without making their condition worse (2, 10)
- Effective communication, established between the patient, their workplace and any health professional involved, leads to more positive outcomes (10). Individuals should be encouraged to contact their occupational health service, where available
- Ergonomic interventions can improve comfort and positively contribute to multimodal interventions, which address both biomechanical and psychosocial aspects (2)

References

1. Black C. Working for a healthier tomorrow. Dame Carol Black's Review of the health of Britain's working age population. Norwich UK: TSO (The Stationary Office); 2008.
2. Burton, K., Kendall, N. A. S., Pearce, B. G., Birrell, L. N. and Bainbridge, C. Management of work-relevant upper limb disorders: a review. *Occupational Medicine* 2009;59:44-52
3. Burton, K., Kendall, N. A. S. Musculoskeletal disorders. *The BMJ. ABC of Occupational and Environmental Medicine*, 3rd Edition 2014
4. Burton, K, Walker-Bone, K. and Jones, G. T. The Arm pain trial. Activity not rest for regional arm pain. *Occupational Health at Work* 2019; 16(4): 16-18
5. Curti, S., Mattioli, S., Bonfiglioli, R., Farioli, A., Violante, F. S. (2021) Elbow tendinopathy and occupational biomechanical overload: A systematic review with best-evidence synthesis. *Journal of Occupational Health* 63:1
6. De Baets L, Matheve T, Meeus M, Struyf F, Timmermans A. The influence of cognitions, emotions and behavioral factors on treatment outcomes in musculoskeletal shoulder pain: a systematic review. *Clinical Rehabilitation*. 2019;33(6):980-991.
7. Doiron-Cadrin, P. et al. Shoulder Rotator Cuff Disorders: A Systematic Review of Clinical Practice Guidelines and Semantic Analyses of Recommendations. *Archives of Physical Medicine and Rehabilitation*, 2020. Vol: 101, Issue: 7, Page: 1233-1242
8. Jones et al. Maintained physical activity and physiotherapy in the management of distal upper limb pain – a protocol for a randomised controlled trial (the arm pain trial). *BMC Musculoskeletal Disorders* 2014; 15: 71.
9. Jones GT, Macfarlane GJ, Walker-Bone K, et al. Maintained physical activity and physiotherapy in the management of distal arm pain: a randomised controlled trial. *RMD Open* 2019;5:
10. Kendall, N., Birrell, L., Bainbridge, C., Pearce, B and Burton, K. How to deal with upper limb pain or injury – based on the latest medical research. *The Arm Book*. The Stationery Office, Norwich 2011
11. Martinez-Calderon, J., Struyf, F., Meeus, M., Luque-Suarez, A. The association between pain beliefs and pain intensity and/or disability in people with shoulder pain: A systematic review. *Musculoskeletal Science and Practice*, 2018, Vol: 37, Page: 29-57
12. Neilson, A. R., Jones, G. T., Macfarlane, G. J., Walker-Bone, K., Burton, K., Heine, P. J., McCabe, C. S., McConnachie, A., Palmer, K. T., Coggon, D. and McNamee, P. Cost-utility of maintained physical activity and physiotherapy in the management of distal arm pain: an economic evaluation of data from a randomized controlled trial. *Family Practice*, 2019, Vol. 36, No. 2, 179-186
13. Health matters: health and work. PHE, 2019
14. Pieters, L., Lewis, J., Kuppens, K., Jochems, J., Bruijstens, T., Joossens, L., Struyf, F. An Update of Systematic Reviews Examining the Effectiveness of Conservative Physical Therapy Interventions for Subacromial Shoulder Pain. *Journal of Orthopaedic & Sports Physical Therapy*. 2020; 50; 3; Pages 131-141
15. Waddell G, Burton AK. Concepts of rehabilitation for the management of common health problems: The Stationery Office; 2004
16. HSE (2021) Work-related musculoskeletal disorders statistics in Great Britain, 2021 <https://www.hse.gov.uk/statistics/causdis/msd.pdf>
17. HSE (2020) Managing upper limb disorders in the workplace A brief guide <https://www.hse.gov.uk/pubns/indg171.pdf>
18. FOM, Occupational Health Principles for healthcare professionals, https://www.fom.ac.uk/document/fom-guidance_oh-principles

Guidance development group on behalf of the Faculty of Occupational Medicine

Professor Ira Madan, Professor of Occupational Medicine, Guy's and St Thomas' NHS Trust and King's College London
Academic Dean, Faculty of Occupational Medicine

Dr John Ballard, editor Occupational Health at Work, director of The At Work Partnership and Honorary Fellow of the Faculty of Occupational Medicine

Professor Gareth Jones Professor in Epidemiology, Epidemiology Group, University of Aberdeen, UK

Bran Jones, Expert by experience

Kim Burton, Professor of Occupational Healthcare, Centre for Applied Research in Health, University of Huddersfield

Karen Walker-Bone, Professor of Occupational Rheumatology and Director Monash Centre for Occupational and Environmental Health

Juliet Raine, Physiotherapist, International Ergonomics Consultant and ACPOHE Educational Lead

Paul Shawcross, Assistant Professor in Physiotherapy at Coventry University & ACPOHE education officer

Dr Nadia Sheikh, Consultant Occupational Health Physician, Health Partners

Faculty of Occupational Medicine April 2023