

PATHOLOGY

# JOINT PAIN: PATHOLOGY AND TREATMENT

An overview of joint pain for community pharmacy teams.

DAWN CONNELLY

## JOINT PAIN CLASSIFICATION

Joint pain can be classified as either mechanical (activity related) or inflammatory. Osteoarthritis — the most common cause of mechanical joint pain — is the inherent repair process of synovial joints and not a disease, as commonly thought. Sometimes this process fails and patients present with symptoms of pain and functional impairment. Joint pain classification is based on signs and symptoms; X-rays are not needed.

## SIGNS AND SYMPTOMS OF MECHANICAL JOINT PAIN



**Joint pain** that is worse when exercising and relieved by rest.



**Stiffness** that lasts for less than 30 minutes in the morning and is common after inactivity.



**Enlarged** (bony) joints, reduced movement, crunching (crepitus) when moved.

## RISK FACTORS FOR OSTEOARTHRITIS



**Age and gender:** Rare under the age of 40 years but then increases with age; more common in women (except hip osteoarthritis [OA]).



**Obesity:** In patients with new-onset knee pain, 25% of cases were related to being overweight or obese.



**Genetics:** Inherited factors account for around 60% of hip OA and 40% of knee OA.



**Major joint injury:** Ligament rupture leads to early-onset knee OA in 13% of cases after 10–15 years.



**Certain occupations:** There is a more than five-fold greater risk of knee OA among workers aged ≥55 years exposed to heavy lifting and kneeling/squatting or climbing stairs.



**Abnormal leg alignment:** Bow-legged knee alignment doubles the risk of knee OA and increases its rate of progression.

## COMMONLY AFFECTED JOINTS



OA is most common in the hands, feet, knees (18% of those aged over 45 years in England) and hips (11% of those over 45 years in England), but other joints can also be affected. It is not unusual to have OA in more than one joint.

## PATIENT-CENTRED CONSULTATION

### Red flags — refer to GP or specialist care

- 1 Pain that is worse on rest and improves with usage
- 2 Morning stiffness that lasts longer than 30 minutes
- 3 Rapid worsening of symptoms
- 4 Hot, swollen joints
- 5 Systemic upset
- 6 History of trauma or cancer

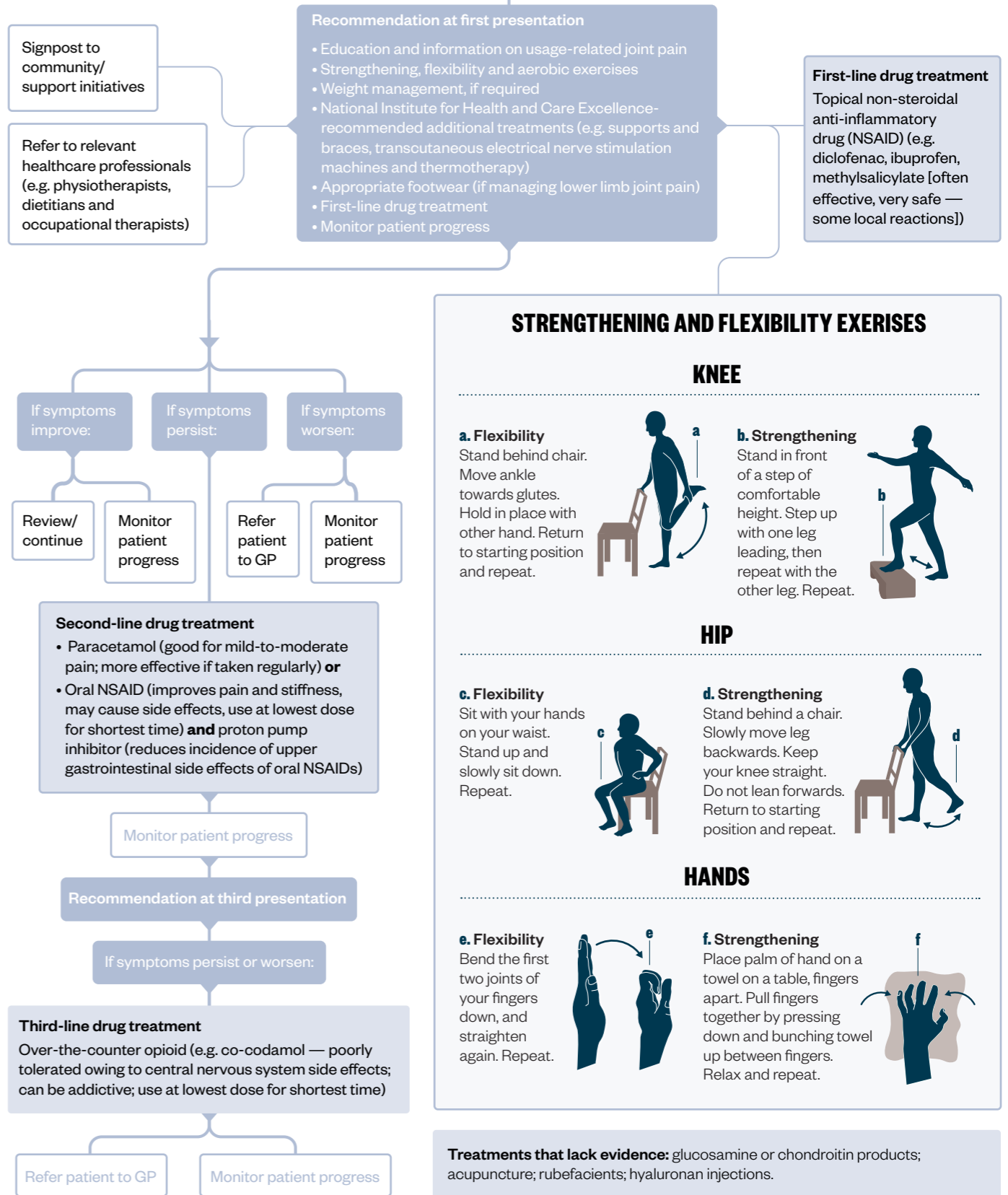
### Manage via the pharmacy management algorithm

- 1 Usage-related pain that is improved by rest
- 2 Morning stiffness that lasts less than 30 minutes
- 3 Gradual worsening of symptoms
- 4 No hot, swollen joints
- 5 No fever or unexplained weight loss
- 6 No previous injury

**Differential diagnosis:** inflammatory arthritis (e.g. gout, rheumatoid arthritis), fibromyalgia, malignancy.

## PHARMACY MANAGEMENT ALGORITHM

The following algorithm can be used providing the patient has no contraindications to the recommended treatments and they do not interact with concurrent medicines.



## STRENGTHENING AND FLEXIBILITY EXERCISES

### KNEE

**a. Flexibility**  
Stand behind chair. Move ankle towards glutes. Hold in place with other hand. Return to starting position and repeat.



**b. Strengthening**  
Stand in front of a step of comfortable height. Step up with one leg leading, then repeat with the other leg. Repeat.

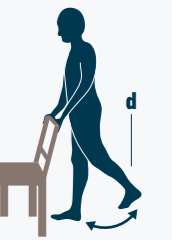


### HIP

**c. Flexibility**  
Sit with your hands on your waist. Stand up and slowly sit down. Repeat.

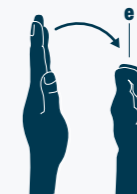


**d. Strengthening**  
Stand behind a chair. Slowly move leg backwards. Keep your knee straight. Do not lean forwards. Return to starting position and repeat.

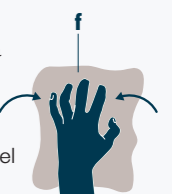


### HANDS

**e. Flexibility**  
Bend the first two joints of your fingers down, and straighten again. Repeat.



**f. Strengthening**  
Place palm of hand on a towel on a table, fingers apart. Pull fingers together by pressing down and bunching towel up between fingers. Relax and repeat.



**Treatments that lack evidence:** glucosamine or chondroitin products; acupuncture; rubefacients; hyaluronan injections.

Sources: Osteoarthritis diagnosis: *Annals of Physical and Rehabilitation Medicine* 2016;59(3):134–138, *Work* 2015;50(2):261–273, Arthritis Research UK, Arthritis Care, National Institute for Health and Care Excellence, National Institute on Aging; Pharmacy management algorithm: *Versus Arthritis* (formerly Arthritis Research UK), National Institute for Health and Care Excellence. Editorial advisers: *The Pharmaceutical Journal*/joint pain expert panel. Infographic: alsdairmacdonald.co.uk