PHC Chapter 14: Musculoskeletal conditions

* 1. Arthralgia
	2. Arthritis, rheumatoid
	3. Arthritis, septic
	4. Gout
		1. Gout, acute
		2. Gout, chronic
	5. Osteoarthrosis (osteoarthritis)

14.1 ARTHRALGIA

M25.50-9

# **DESCRIPTION**

Joint pain without swelling, warmth, redness or systemic manifestations such as fever.

It is usually self-limiting. May be an early manifestation of degenerative joint conditions (osteoarthrosis) or local and systemic diseases. May follow injury to the joint, e.g. work, play and position during sleep.

Suspect rheumatic fever in children, especially if arthralgia affects several joints in succession.

**GENERAL MEASURES**

* Advise patient to:
* apply heat locally to the affected joint, taking precautions not to burn oneself
* exercise after relief from pain
* reduce weight, if overweight, to decrease stress on the joint
* Exclude systemic causes.
* Reassure patient.

# **MEDICINE TREATMENT**

Treat for 1 week (maximum 2 weeks) provided no new signs develop.

Pain:

Children

* Paracetamol, oral, 10–15 mg/kg/dose 6 hourly when required. See dosing table, pg 22.6.

Adults

* Paracetamol, oral, 1 g 4–6 hourly when required to a maximum of 4 doses per 24 hours.
* Maximum dose: 15 mg/kg/dose.
* Maximum dose: 4 g in 24 hours.
* Methyl salicylate ointment, topical, may provide some relief.

# **REFERRAL**

* Pain for 1 week in children, and pain for > 2 weeks in adults.
* Recurrent pain.
* Severe pain.
* Fever.
* Involvement of several joints in succession
* Evidence of systemic illness e.g. e.g. sore throat in children, presence of jaundice, anaemia

14.2 ARTHRITIS, RHEUMATOID

M06.90-9

# **DESCRIPTION**

A chronic inflammatory systemic condition. May affect many organs, but the musculoskeletal system is predominantly affected with several joints becoming painful and swollen. There is usually symmetrical involvement of small joints from early on. The small joints of the fingers and hands with the exception of the distal interphalangeal joints, are usually involved, although any joint can be involved.

1. Four ‘S factors’ are useful to screen for early joint disease
* Stiffness: Early morning stiffness lasting > 30 minutes
* Swelling: persistent swelling of 1 or more joints, particularly hand joints
* Squeeze test hands: Tenderness on squeezing across all 4 metarcarpo-phalangeal joints
* Squeeze test feet: Tenderness on squeezing across all 4 metartarso-phalangeal joints

Late disease may have destruction and deformity of affected joints especially of the fingers e.g. ulnar deviation, buttonhole and swan neck deformities.

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| *LoE:III[[1]](#endnote-2)* |

**GENERAL MEASURES**

* Advise patient to:
* reduce weight
* stop smoking
* Manage co-morbidities.
* Educate on joint-care (refer to occupational therapy, if available).

# **MEDICINE TREATMENT**

All newly diagnosed patients must be referred for specialist management with disease modifying antirheumatic drugs (DMARDs).

**For control of acute symptoms whilst awaiting referral (Doctor initiated):**

* NSAIDs, e.g.:
* Ibuprofen, oral, 400 mg 8 hourly with a meal.
* Continue for no longer than 3-6 months.

**For control of acute symptoms during disease flares and in severe extra-articular manifestations e.g. scleritis (Doctor prescribed):**

* NSAIDs, e.g.:
* Ibuprofen, oral, 400 mg 8 hourly with a meal for 2 weeks.

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| *LoE:III[[2]](#endnote-3)* |

NSAIDs are used for symptomatic relief in patients with active inflammation and pain. They have no long-term disease modifying effects.

NSAIDs are relatively contra-indicated in patients with significantly impaired renal function, i.e. eGFR < 60 mL/minute.

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| Concomitant use of more than one oral NSAID has no additional clinical benefit and only increases toxicity.Chronic use of all NSAIDs is associated with increased risks of gastrointestinal bleeding, renal failure, and cardiovascular events (stroke and myocardial infarction).  |

If NSAIDS are contraindicated for acute flares e.g. warfarin therapy, renal dysfunction:

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| *LoE:III[[3]](#endnote-4)* |

* Prednisone, oral, 7.5 mg daily for a maximum of 2 weeks.

**Note:** Patients should not remain on corticosteroids long-term in the absence of confirmed diagnosis of rheumatoid arthritis.

In high-risk patients: > 65 years of age; history of peptic ulcer disease; on concomitant warfarin, aspirin, or corticosteroids:

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| *LoE:III[[4]](#endnote-5)* |

**ADD**

* Proton pump inhibitor, e.g.
* Lansoprazole, oral, 30 mg daily whilst on an NSAID.

For confirmed RA, NSAIDs and corticosteroids will be continued by a specialist as bridging therapy until DMARDs have taken effect.

# **REFERRAL**

**Urgent (to a specialist)**

* Severe extra-articular articular manifestations.

**Non-urgent**

* Refer all patients early for confirmation of diagnosis and management.
* Known RA patients with acute disease flares.

14.3 ARTHRITIS, SEPTIC

M00.9-9

# **DESCRIPTION**

An acute infective condition involving one or more joints.

The joint is hot, swollen, very painful and with restricted movements.

Signs of systemic infection, including fever, are usually present. The infection is usually blood borne, but may follow trauma to the joint. The course may be acute or protracted. A wide spectrum of organisms is involved, including staphylococci and *N. gonorrhoea*.

## Note: Haemophiliacs may present with an acute arthritis similar to septic arthritis. This is due to bleeding into a joint and not due to infection*.*

# **MEDICINE TREATMENT**

* Infants≤ 2 months of age, who fulfill the IMCI criteria for “POSSIBLE SERIOUS BACTERIAL INFECTION” should receive a first dose of ceftriaxone and other IMCI urgent care while arranging transfer.
* Ceftriaxone, IM, 80 mg/kg/dose immediately as a **single dose.** See dosing table, pg 22.2.
	+ Do not inject more than 1 g at one injection site.

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| **CAUTION: USE OF CEFTRIAXONE IN NEONATES AND CHILDREN**1. If *SUSPECTING SERIOUS BACTERIAL INFECTION* in neonate, give ceftriaxone, even if jaundiced.
2. Avoid giving calcium-containing IV fluids (e.g. Ringer Lactate) together with ceftriaxone:
* If ≤ 28 days old, avoid calcium-containing IV fluids for 48 hours after ceftriaxone administered.
* If >28 days old, ceftriaxone and calcium-containing IV fluids may be given sequentially provided the giving set is flushed thoroughly with sodium chloride 0.9% before and after.
* Preferably administer IV fluids without calcium contents
1. Always include the dose and route of administration of ceftriaxone in the referral letter.
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Treat shock if present, while preparing for transfer.

# **REFERRAL**

##### Urgent

* All patients for confirmation of diagnosis and surgical drainage.
* Children with suspected septic arthritis should be assessed for evidence of septicaemia and septicaemic shock, which should be treated accordingly.

14.4 GOUT

14.4.1 GOUT, ACUTE

M10.90-9

# **DESCRIPTION**

A metabolic disease in which uric acid crystal deposition occurs in joints and other tissues. Characterised by recurrent attacks of a characteristic acute arthritis thatoften affects one joint and is accompanied by severe pain, tenderness, swelling, redness and is hot to the touch. The inflammation may extend beyond the joint.

* In many patients the 1stmetatarso-phalangeal joint is initially involved.The instep, ankle, heel, and knee are also commonly involved. Bursae (such as the olecranon) may be involved.

Gout commonly occurs in men >40 years of age and in postmenopausal women.

# **INVESTIGATIONS**

* Increased serum uric acid level.
* However, the serum uric acid level may be normal during acute attacks, and therefore best estimated after the acute symptoms have subsided.

# **GENERAL MEASURES**

* Immobilise the affected joint during the acute painful attack.
* Increase (high) fluid intake.
* Avoid alcohol.
* Avoid aspirin.

# **MEDICINE TREATMENT**

## Initiate treatment as early as possible in an acute attack.

* NSAIDs, e.g.:
* Ibuprofen, oral, 400 mg,8 hourly with or after a meal for the duration of the attack.

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| *LoE: III[[5]](#endnote-6)* |

**If NSAIDS are contraindicated, e.g. peptic ulceration, warfarin therapy and renal dysfunction, or heart failure:**

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| *LoE:II[[6]](#endnote-7)* |

* Prednisone, oral, 40 mg daily for 5 days (Doctor initiated).

# **REFERRAL**

* No response to treatment.
* For confirmation of diagnosis, if in doubt.
* Patients with chronic kidney disease.
* Patients with suspected secondary gout (e.g. haematological malignancies).

**Note:**

* Gout may be secondary to other medical conditions, e.g. haematological malignancies.
* Gout may co-exist with hypertension, diabetes mellitus (as a risk factor for degenerative vascular disease) and chronic kidney disease. The pharmacological treatment of these conditions could precipitate gout.

14.4.2 GOUT, CHRONIC

M10.90-9

# **DESCRIPTION**

Gout with one or more of the following:

* uric acid deposits in and around the joints and cartilages of the extremities (tophi)
* tophi are most commonly found as hard nodules around the fingers and toes, at

the tips of the elbows (olecranon bursae) or at the pinnae of the ears

* serum uric acid >0.5 mmol/L
* bone and cartilage destruction of the fingers and toes with joint swelling and deformity
* prolongation of attacks, often with reduction in pain severity
* incomplete resolution between attacks

# **GENERAL MEASURES**

* If possible, avoid known precipitants and medicines that may increase uric acid, e.g. low dose aspirin, ethambutol, pyrazinamide and diuretics, especially

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| *LoE:III* |

 hydrochlorothiazide.

* Encourage weight loss.
* Avoid alcohol.

# **MEDICINE TREATMENT**

* Uric acid lowering therapy is required in all of the following:

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| * ≥ 2 acute attacks per year
 | * urate renal stones
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| * chronic tophaceous gout
 | * urate nephropathy
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When the acute attack has settled completely, i.e. usually after 3 weeks:

* Allopurinol, oral, 100 mg daily (Doctor initiated).
	+ Increase monthly by 100 mg according to urate blood levels.
	+ Titrate dose to reduce serum urate to < 0.35 mmol/L.
	+ Average dose: 300 mg/day.
	+ Maximum dose: 400 mg daily.
	+ The elderly and patients with renal impairment require lower doses.

# **REFERRAL**

* Suspected secondary gout.
* No response to treatment.
* Non-resolving tophaceous gout.

14.5 OSTEOARTHROSIS (OSTEOARTHRITIS)

M19.90-9

# **DESCRIPTION**

A degenerative disorder typically affecting weight-bearing joints.

Signs and symptoms include:

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| * pain usually with movement
 | * post-rest stiffness
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| * limited range of movement often with crepitus
 | * joint may be swollen
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# **GENERAL MEASURES**

The total package of care for OA puts an equal weight on non-pharmacological/ general measures and pharmacological management

Patient and family education on:

* weight reduction
* exercise
* Rest during acute painful episodes.
* Recommend use of a walking stick or crutch to alleviate stress on weight bearing joint.
* Physiotherapy and/or occupational therapy.

# **MEDICINE TREATMENT**

Pain:

* Paracetamol, oral, 1 g 4–6 hourly when required to a maximum of 4 doses per 24 hours.
* Maximum dose: 15 mg/kg/dose.
* Maximum dose: 4 g in 24 hours.
* Methyl salicylate ointment, topical, may provide some relief.

If patient responds to paracetamol reduce the dose to:

* Paracetamol, oral, 500 mg, 6–8 hourly when required.

If no response and inflammation is present:

**ADD**

* NSAID, e.g.:
* Ibuprofen, oral, 400 mg 8 hourly with a meal, as needed for 7 days.

As many of these patients, particularly the elderly have concomitant medical conditions such as cardiovascular, gastrointestinal disease or renal function impairment, NSAIDs must be used with caution.

Patients on aspirin for cardiovascular risk reduction should take aspirin 30 minutes before the 1st dose of ibuprofen in the morning, as taking aspirin and

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| *LoE:III[[7]](#endnote-8)* |

ibuprofen at the same time may reduce aspirin’s efficacy.

In high-risk patients: > 65 years of age; history of peptic ulcer disease; or on concomitant warfarin, aspirin or corticosteroids:

**ADD**

* Proton pump inhibitor, e.g.

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| *LoE:III[[8]](#endnote-9)* |

* Lansoprazole, oral, 30 mg daily.

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| **CAUTION**Long-term use of NSAIDs has adverse effects on renal and cardiac function, the GIT and on joint cartilage. |

If no response add:

* Amitriptyline, oral, 10–25 mg at night.(Doctor prescribed)
* Titrate dose according to response.
* Initial dose in the elderly: 10 mg at night.

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| *LoE:III[[9]](#endnote-10)* |

# **REFERRAL**

All cases with:

* uncertain diagnosis
* intractable pain
* recurrent episodes of pain with inflammation
* suspected infection
* for consideration of joint replacement
1. Rheumatoid arthritis clinical presentation: Aletaha D, Neogi T, Silman AJ, Funovits J, Felson DT, Bingham CO 3rd, Birnbaum NS, Burmester GR, Bykerk VP, Cohen MD, Combe B, Costenbader KH, Dougados M, Emery P, Ferraccioli G, Hazes JM, Hobbs K, Huizinga TW, Kavanaugh A, Kay J, Kvien TK, Laing T, Mease P, Ménard HA, Moreland LW, Naden RL, Pincus T, Smolen JS, Stanislawska-Biernat E, Symmons D, Tak PP, Upchurch KS, Vencovský J, Wolfe F, Hawker G. 2010 Rheumatoid arthritis classification criteria: an American College of Rheumatology/European League Against Rheumatism collaborative initiative. Arthritis Rheum. 2010 Sep;62(9):2569-81. <https://www.ncbi.nlm.nih.gov/pubmed/20872595> [↑](#endnote-ref-2)
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 Proton pump inhibitor (high risk patients on chronic NSAID therapy): Lanza FL, Chan FK, Quigley EM; Practice Parameters Committee of the American College of Gastroenterology. Guidelines for prevention of NSAID-related ulcer complications. Am J Gastroenterol. 2009 Mar;104(3):728-38. <http://www.ncbi.nlm.nih.gov/pubmed/19240698> [↑](#endnote-ref-5)
5. Ibuprofen (ceiling effect): Laska EM, Sunshine A, Marrero I, Olson N, Siegel C, McCormick N. The correlation between blood levels of ibuprofen and clinical analgesic response. Clin Pharmacol Ther. 1986 Jul;40(1):1-7.<http://www.ncbi.nlm.nih.gov/pubmed/3522030>

 Ibuprofen (ceiling effect): National Department of Health. Adult Hospital level STGs and EML, 2015. <http://www.health.gov.za/> [↑](#endnote-ref-6)
6. NSAIDs and heart failure risk:Arfè A, Scotti L, Varas-Lorenzo C, Nicotra F, Zambon A, Kollhorst B, Schink T, Garbe E, Herings R, Straatman H, Schade R, Villa M, Lucchi S, Valkhoff V, Romio S, Thiessard F, Schuemie M, Pariente A, Sturkenboom M, Corrao G; Safety of Non-steroidal Anti-inflammatory Drugs (SOS) Project Consortium.. Non-steroidal anti-inflammatory drugs and risk of heart failure in four European countries: nested case-control study. BMJ. 2016 Sep 28;354:i4857. <https://www.ncbi.nlm.nih.gov/pubmed/27682515> [↑](#endnote-ref-7)
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