Whittington Health NHS

Hot, Red, Swollen Joint - Management

Subject:	The management of the hot, red, swollen joint.
Policy Number	N/A
Ratified By:	Clinical Guidelines Committee
Date Ratified:	Original 2004. Reviewed in 2006. Reviewed with minor amendments May 2013
Version:	3
Policy Executive Owner:	ICAM Divisional Director
Designation of Author:	Original author: Dr Jennifer Worrall Amended by: Dr Laura Congi
Name of Assurance Committee:	As above
Date Issued:	May 2013
Review Date:	3 years hence
Target Audience:	Emergency Department, General internal medicine doctors, Orthopaedics, Rheumatology and Care of the Elderly

Version Control Sheet

Version	Date	Author	Status	Comment
1.0	Feb 2003	Dr Jennifer Worrall	Approved	On intranet and in use
2.0	May 2013	Minor updates: Dr Laura Congi	Minor updates	Paragraph “General”: Added: “reactive arthritis, monoarticular presentation of an inflammatory arthritis” Paragraph “Investigations” – Added “serum urate” to the list of the bloods Paragraph “Septic arthritis – Antibiotics (discuss with microbiology) – Added the sentence “Therefore, start empirical antibiotics with: a)…b)….c)” and “Re-check synovial fluid culture results after starting antibiotic treatment

Criteria for use

For use in the Emergency Department and by all medical staff in the hospital

General

- Septic arthritis can present with a wide range of severity. Involvement of infection in more than one joint occurs in up to 20% of cases[1]
- Septic arthritis is associated with a mortality rate of 10-22%[2]
- Excluding trauma, a painful red, hot, swollen and stiff joint is **SEPTIC** until proven otherwise
- Differential diagnosis also includes crystal arthritis, reactive arthritis, monoarticular presentation of an inflammatory arthritis, cellulites and bursitis
- All cases should be discussed with either the Rheumatology SpR or Orthopaedic on call SpR

Presentation

- Infections usually present with fever and general malaise but can present with septicemia/septic shock
- Young children can present with general irritability
- Infections in prosthetic joints may just present with slowly increasing joint pain
- Abnormal Joints are more susceptible to infection

Investigations

1. Diagnostic Joint Aspiration – MANDATORY

Aseptic technique
Ideally before starting antibiotics
To be done only by an orthopaedic surgeon if a prosthetic joint

- Aspirate joint (using a green or white needle) and send fluid for:
  Microbiology – Cells, urgent Gram Stain and culture
  Histopathology – for polarising light microscopy for crystals

2. Bloods

- Full blood count (FBC)
- Urea & Electrolytes
- Serum Urate
- Glucose
- Liver Function
- Acute phase reactants
- Blood Cultures

3. Imaging

- Always do a plain x-ray of the involved joint

4. Other Cultures (with specialist input)

- Mid stream urine (MSU)
- Pharyngeal, urethral, cervical +/- rectal swabs if considering gonococcus and Chlamydia

Treatment

- If a crystal arthritis confirmed patients can usually be treated at home with medication
- If sepsis or uncertain diagnosis need inpatient management

Septic arthritis

Management is based on appropriate use of antimicrobial therapy, joint drainage and physiotherapy.

1. Antibiotics (discuss with microbiology)

- Ultimate choice of antibiotics is guided by gram stain, subsequent culture and sensitivities.
- Until these are available “best guess” is guided by clinical picture and likely pathogens. Therefore, start empirical antibiotics with:
  a) IV Flucloxacillin and Benzylpenicillin - in adults
  b) IV Clindamycin - in penicillin allergy
  c) IV Augmentin - in children

- Duration of therapy is empirically determined and varies from 2 to 6 weeks of intravenous antibiotics followed by 3-12 weeks of oral therapy[3]
- Re-check synovial fluid culture results after starting antibiotic treatment

2. Analgesia

- Start with simple analgesia and build up according to clinical needs

3. Subsequent therapeutic joint drainage (with specialist input)

- Needle Aspiration should be repeated as frequently as required to prevent symptomatic re-accumulation of fluid
- Arthroscopy is indicated:
    a) If aspiration is difficult – synovial fluid is thick or involvement of inaccessible joints
    b) On all cases of prosthetic joints

4. Physiotherapy

- Early mobilisation and full weight bearing as pain allows
- Bed rest and splints can be used when patient is toxic and/or obtunded
- Early passive and active movements and relevant exercises should be encouraged[4]

Gout (Acute)

- Non steroidal anti-inflammatory drugs (NSAIDs) – if gastro-intestinal (GI) or other contraindications use Colchicine 500mcg tds
- Allopurinol should not be started during an attack because this can make matters worse or prolong the attack.
- Consider injecting joint with appropriate long acting steroid (if infection excluded)
- For further advice contact the Rheumatology SpR

Pseudogout (Acute)

- NSAID – if GI or other contraindications use Colchicine 500mcg tds
- Consider injecting joint with appropriate long acting steroid (if infection excluded)
- For further advice contact the Rheumatology SpR

References

1. Perez LC. Septic arthritis. *Baillieres Clin Rheumatol* 1999;13:37-58
2. Gupta MN et al. Prospective comparative study of patients with culture proven and high suspicion of adult onset septic arthritis. *Ann Rheum Dis* 2003;62:327-331
3. Perez LC. Septic arthritis. *Baillieres Clin Rheumatol* 1999;13:37-58
4. Goldenberg DL. Septic arthritis. *Lancet* 1998;351:197-202
5. Donatto KC. Orthopaedic management of septic arthritis. *Rheum Dis Clin North Am* 1998;24:275-86

To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval

		Yes/No	Comments
1.	**Does the procedural document affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
	• Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the procedural document likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the procedural document without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this procedural document, please refer it to the Director of Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.
For advice in respect of answering the above questions, please contact the Director of Human Resources.

Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

	Title of document being reviewed:	Yes/No	Comments
1.	**Title**		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	
2.	**Rationale**		
	Are reasons for development of the document stated?	Yes	
3.	**Development Process**		
	Is it clear that the relevant people/groups have been involved in the development of the document?	Yes	
	Are people involved in the development?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
4.	**Content**		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
5.	**Evidence Base**		
	Are key references cited in full?	N/A	
	Are supporting documents referenced?	N/A	
6.	**Approval**		
	Does the document identify which committee/ group will approve it?	Yes	
7.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Yes	
8.	**Document Control**		
	Does the document identify where it will be held?	Yes	
9.	**Process to Monitor Compliance and Effectiveness**		

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Executive Sponsor Approval			
If you approve the document, please sign and date it and forward to the author. Procedural documents will not be forwarded for ratification without Executive Sponsor Approval			
Name		Date	
Signature			
Relevant Committee Approval			
The Director of Nursing and Patient Experience's signature below confirms that this procedural document was ratified by the appropriate Governance Committee.			
Name		Date	
Signature			
Responsible Committee Approval – only applies to reviewed procedural documents with minor changes			
The Committee Chair's signature below confirms that this procedural document was ratified by the responsible Committee			
Name		Date	
Name of Committee		Name & role of Committee Chair	
Signature			

Tool to Develop Monitoring Arrangements for Policies and guidelines

What key element(s) need(s) monitoring as per local approved policy or guidance?	Who will lead on this aspect of monitoring? Name the lead and what is the role of the multidisciplinary team or others if any.	What tool will be used to monitor/check/observe/Assess/inspect/ authenticate that everything is working according to this key element from the approved policy?	How often is the need to monitor each element? How often is the need complete a report ? How often is the need to share the report?	What committee will the completed report go to?
Element to be monitored	**Lead**	**Tool**	**Frequency**	**Reporting arrangements**
Areas for improvement: **- Exclusion of trauma and involvement of multiple joints** **- Requesting blood cultures where aseptic arthritis is considered** **- Starting empirical antibiotics if suspected septic arthritis** **- Rechecking synovial culture results**	**Dr L Congi – Consultant Rheumatologist**	**Re-Audit**	**2-3 years**	**Clinical guidelines**