CLINICAL GUIDELINE

Flexor Sheath Infections, Antibiotic Treatment Guideline

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

Version Number:	1
Does this version include changes to clinical advice:	N/A
Date Approved:	11th November 2025
Date of Next Review:	28th February 2029
Lead Author:	Pauline Wright
Approval Group:	Antimicrobial Utilisation Committee
Guideline ID number:	1272

Important Note:

The online version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

AIM/OBJECTIVE OF GUIDELINE

This guideline covers the suggested antibiotic management of flexor sheath infections. It aims to improve care and ensure the most appropriate antibiotics are given for effective treatment of patients.

INTRODUCTION/BACKGROUND

Flexor sheath infection, otherwise known as pyogenic flexor tenosynovitis, is an infection of the synovial sheath. The diagnosis is made clinically with the presence of four knavel signs (flexed posturing of the involved digit, tenderness to palpation over the tendon sheath, pain with passive extension and fuse form swelling of the digit).

Treatment is with urgent irrigation and debridement of the flexor tendon sheath and IV antibiotics. A 24-hour trial period of IV antibiotics alone in very early mild cases as per the British Society for Surgery of the Hand (BSSH) guidelines can be considered.

SCOPE

This guidance is for prescribers working within NHS GGC.

GUIDELINE

Immediate Management

1. Urgently refer to Orthopaedics or Plastics (depending on local protocol)

- **Notify the on-call upper limb consultant** as soon as FSI is suspected as urgent surgical management often required.

2. Start IV antibiotics immediately

- **Do NOT delay antibiotics while waiting for samples.**

3. Contact Microbiology early

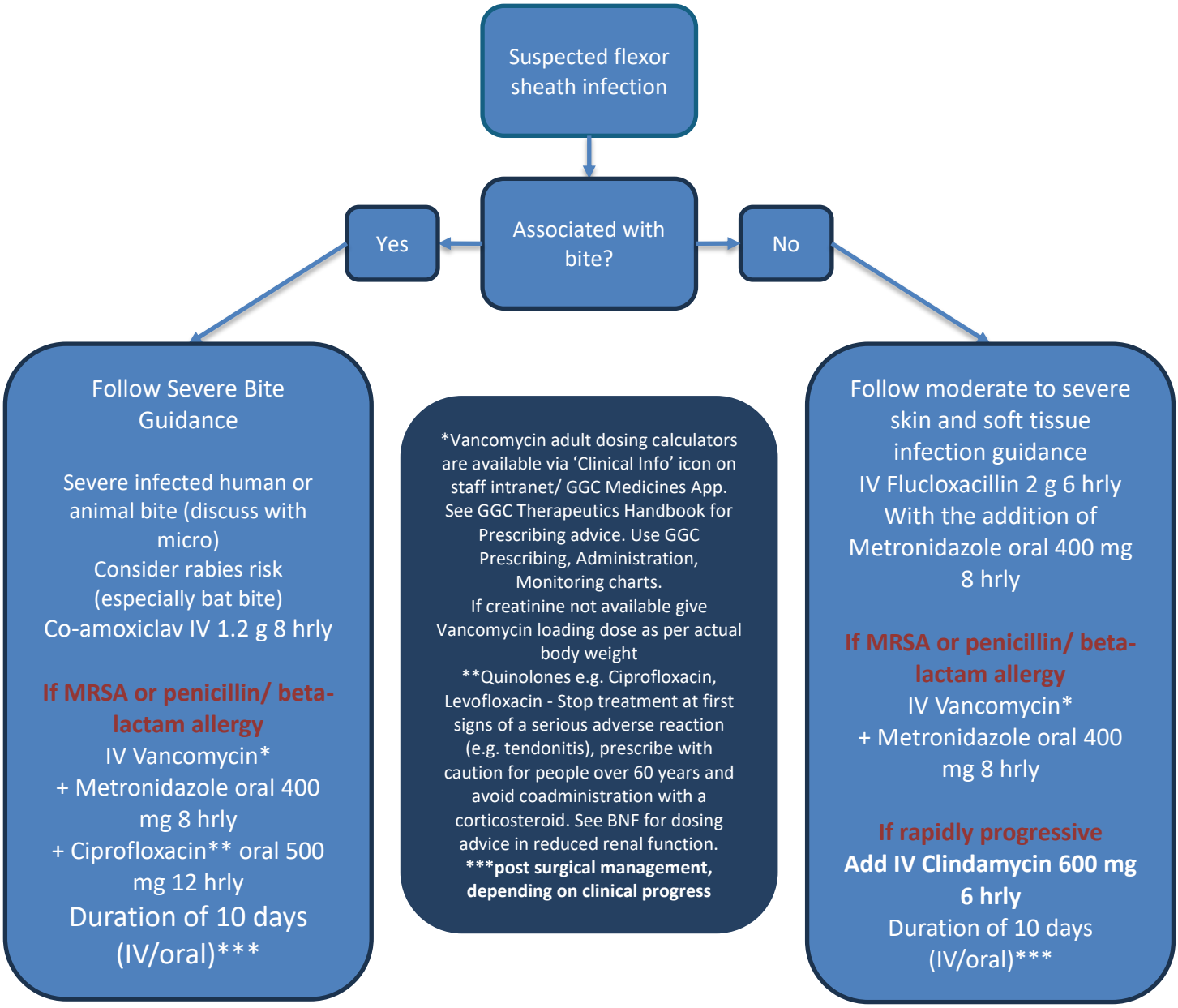
- Particularly in severe infection, immunocompromised patients, or treatment failure.

4. Identify severe infections early and/or monitor closely for rapid progression

- Maintain a **low threshold for escalation** if swelling, pain, or systemic features worsen.
- Escalate therapy if appropriate.

5. Follow the antibiotic pathway below

- Refer to the **treatment table/flowchart for antimicrobial selection and escalation.**



REFERENCES

1. Flexor Sheath Infection [Internet]. British Society for Surgery of the Hand ; [cited 2023 Nov 10]. Available from: Flexor Sheath Infection https://www.bssh.ac.uk/_userfiles/pages/files/professionals/Trauma%20standards/10%20Flexor%20sheath%20infection.pdf
2. Pyogenic flexor tenosynovitis [Internet]. [cited 2023 Nov 10]. Available from: https://www.orthobullets.com/hand/6105/pyogenic-flexor-tenosynovitis
3. Kennedy CD, Huang JI, Hanel DP. In brief: Kanavel's signs and pyogenic flexor tenosynovitis. Clinical Orthopaedics & Related Research. 2016;474(1):280–4. doi:10.1007/s11999-015-4367-x

4. Leppänen OV, Jokihaara J, Kaivorinne A, Havulinna J, Göransson H. Protocol for an investigator-blinded, randomised, 3-month, parallel-group study to compare the efficacy of intraoperative tendon sheath irrigation only with both intraoperative and postoperative irrigation in the treatment of purulent flexor tenosynovitis. BMJ Open. 2015;5(12). doi:10.1136/bmjopen-2015-008824
5. Bruner JM. The zig-zag volar-digital incision for Flexor-tendon surgery. Plastic and Reconstructive Surgery. 1967;40(6):571–4. doi:10.1097/00006534-196740060-00010