**Background**

Acute rhinosinusitis is defined as the sudden onset of two or more symptoms, one should be either nasal blockage/obstruction/congestion or nasal discharge (anterior/posterior nasal drip)1.

 +/- Facial pain/pressure

 +/- Reduction/loss of smell in adults OR +/- cough in children

The majority of acute cases are viral; less than 2% are bacterial2. Bacterial infection may be more likely if symptoms greater than 10 days, discoloured/purulent discharge, severe localised unilateral pain, fever, or marked deterioration after initial mild phase1.

Rhinosinusitis is defined as chronic if symptoms are present for over 12 weeks3. Severe complications of ARS involving the brain or orbital structures are rare1. Red flag symptoms/signs that should prompt immediate referral include patients with severe systemic infection, orbital complications (including cellulitis), displaced eyeball, double vision, ophthalmoplegia or newly reduced visual activity, intercranial complications, signs/symptoms of meningitis, severe frontal headache or neurological signs2.

**Aim**

To evaluate antibiotic prescribing for acute rhinosinusitis against:

1. [NICE Guidelines (NG79)2](https://www.nice.org.uk/guidance/ng79): Sinusitis (acute): antimicrobial prescribing

1. [NICE Summary of antimicrobial prescribing guidance](https://www.bnf.org/news/2021/07/29/bnf-hosts-antimicrobial-summary-guidance-on-behalf-of-nice-and-phe/)3 - managing common infections

|  |
| --- |
| **Table 1: NICE summary of antimicrobial prescribing guidance – acute sinusitis** |
| **Infection** | **Key Points** | **Medicine** | **Does** | **Length** |
| **Sinusitis** | Advise paracetamol or ibuprofen for pain. Little evidence that nasal saline or nasal decongestants help, but people may want to try them.**Symptoms for 10 days or less**: no antibiotic.**Symptoms with no improvement for more than 10 days**: no antibiotic or back-up antibiotic depending on likelihood of bacterial cause. Consider high-dose nasal corticosteroid (if over 12 years).**Systemically very unwell or high risk of complications**: immediate antibiotic.*For detailed information click on the* [visual summary](https://www.nice.org.uk/guidance/ng79)*.* | **First choice**: phenoxymethylpenicillin  | 500mg QDS | 5 days |
| **Penicillin allergy**: doxycycline (not in under 12s) **OR** | 200mg on day 1, then 100mg OD  | 5 days |
| clarithromycin **OR** | 500mg BD |
| erythromycin (if macrolide needed in pregnancy; consider benefit/harm) | 250 to 500mg QDS or500 to 1000mg BD |
| **Second choice or first choice if systemically very unwell or high risk of complications**: co-amoxiclav | 500/125mg TDS | 5 days |

**How to complete this audit**

The audit tool is for adults and children that present with acute rhinosinusitis. It can be modified to comply with local infection management guidelines.

**Step 1**: Search for 20-40 consultation (minimum 20) relating to acute rhinosinusitis to be analysed to determine overall compliance with NICE guidance. The Read/Snomed codes below are a sample of codes that can be used but consider adding codes that you or your colleagues are likely to use when you see patients with cough. Searching for just a few codes may identify all the consultations you require.

|  |  |  |
| --- | --- | --- |
| **Read Codes** | **SNOMED Codes** | Infection |
| **H010** | **68272006** | Acute maxillary sinusitis  |
| **H011** | **91038008** | Acute frontal sinusitis  |
| **H012** | **67832005** | Acute ethmoidal sinusitis  |
| **H013** | **77919000** | Acute sphenoidal sinusitis  |
| **H014** | **431231008** | Acute rhinosinusitis  |
| **H01y** | **N/A** | Other acute sinusitis  |
| **H01z** | **15805002** | Acute sinusitis  |

**Step 2**: Compete the data collection table below for each selected patient.

|  |
| --- |
| **Data Collection Sheet: ACUTE RHINOSINUSITIS Audit** |
| **Compliance with NICE Guidance for management of acute rhinosinusitis** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** | **% of Total acute sinusitis** | **Your target % for good practice**  |
| 1. No antibiotic given
 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. Back-up/delayed antibiotic given with advice about how to access
 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. Immediate antibiotic given with advice on compliance
 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. **Management appropriate for clinical presentation?**
 |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. Advice given on natural history and illness duration *14 - 21days*
 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. Advice given about managing symptoms including fever

 *Self-care advice* |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. Information about when to re-consult *Safety netting advice*
 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. Information shared on antibiotic use and resistance
 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. [Shared the TARGET Treating Your Infection RTI leaflet](http://www.rcgp.org.uk/clinical-and-research/toolkits/~/link.aspx?_id=9FCF9DA4B4A045519593320478DFD9E7&_z=z)
 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **If antibiotics prescribed** (N=\_\_\_\_\_\_ ) |
| 1. Antibiotic choice correct *1st line: PhenoxymethylpenicillinPenicillin allergy: Doxycycline OR Clarithromycin OR if pregnant, ErythromycinVery unwell: Co-amoxiclav*
 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. Dose/frequency correct *1st : 500mg QDS Doxycycline : 200mg stat then 100mg OD*

*Clarithromycin: 500mg BD**Erythromycin: 250-500mg QDS OR 500-1000mg BDCo-amoxiclav:* 500/125mg TDS  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. Course length correct*5d*
 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

For ease of use you can now summarise your data the Summary table below.

|  |  |
| --- | --- |
| **Total number of patients** | **…………………..** |
| **Row in table below** | **Criteria** | **Number of patients****(N)** | **Total % of Patients** | **Target %** |
| **Management decision** |
| **A** | No antibiotic given |  |  | >70% |
| **B** | Back-up/delayed antibiotic given with advice about how to access |  |  | <40% |
| **C** | Immediate antibiotic given with advice on compliance |  |  | <30% |
| **D** | Management appropriate for clinical presentation? |  |  | 100% |
| **Providing Advice**  |
| **E** | Advice given on natural history and average length of illness – *14-212 days* |  |  | 100% |
| **F** | Advice given about managing symptoms (*Self-care advice*) |  |  |
| **G** | Information about when to re-consult (*Safety netting advice*) |  |  |
| **H** | Information given about antibiotic use and resistance  |  |  |
| **I** | [Shared the TARGET Treating Your Infection RTI leaflet](http://www.rcgp.org.uk/clinical-and-research/toolkits/~/link.aspx?_id=9FCF9DA4B4A045519593320478DFD9E7&_z=z) |  |  |
| **If antibiotics were prescribed: (N= …….. )** |
| **J** | Antibiotic choice correct – *1st line: PhenoxymethylpenicillinPenicillin allergy: Doxycycline OR Clarithromycin OR if pregnant, ErythromycinVery unwell: Co-amoxiclav* |  |  | 100% |
| **K** | Dose/frequency correct *1st : 500mg QDS* *Doxycycline : 200mg stat then 100mg OD**Clarithromycin: 500mg BD**Erythromycin: 250-500mg QDS OR 500-1000mg BDCo-amoxiclav:* 500/125mg TDS  |  |  |
| **L** | Course length correct – *All 5 days* |  |  |

## Overall compliance with NICE Guidance

**Step 3**: How did you do? Follow the simple calculations below to see how compliant you were with NICE guidelines.

1. **On whether to prescribe an antibiotic**

$$\left(\frac{Total number of NICE antibiotic prescribing guidance followed (row D)}{Total number of patients in audit}\right) X 100$$

1. **Overall compliance with NICE guidance to share self-help, safety netting advice and antibiotic advice (EFGH) OR if TARGET Treating Your Infection RTI leaflet shared(I)**

$$\left(\frac{\begin{array}{c}Number of patients where self help advice, safety netting advice \\OR the TARGET Treating your infection leafelt was shared\\AVG\left[\left(AVG rows EFGH\right)+Row I\right]\end{array}}{Total number of patients in audit}\right) X 100$$

1. **If antibiotics were used, total number given correct antibiotic, dose/frequency and course length (KLM )**

$$\left(\frac{All parameters of antibiotic prescribing correct (rows J+ K+L)}{Total number of patients prescribed an antibiotic (rows B+C)}\right) X 100$$

**What can you do to improve guidance compliance?**

1. Promote use of NICE [antimicrobial / management of infection guidelines](https://www.nice.org.uk/guidance/health-protection/communicable-diseases/antimicrobial-stewardship) by all in practice
2. Encourage use of TARGET Treating Your Infection – Respiratory Tract infection (TYI-RTI) [leaflet.](https://elearning.rcgp.org.uk/mod/book/view.php?id=12647&chapterid=444)
3. Share TARGET TYI-RTI leaflet on clinical system.
4. Encourage consistent message from different staff and when patients re-attend.
5. Encourage others to perform [audit](https://elearning.rcgp.org.uk/mod/book/view.php?id=12649).
6. Re-audit in 4 months - identify a date when you will repeat the [audit](https://elearning.rcgp.org.uk/mod/book/view.php?id=12649).
7. Record actions required, especially when compliance with primary care guidance is less than 80%.
8. Make use of [TARGET toolkit](https://elearning.rcgp.org.uk/course/view.php?id=553).
9. Consider developing a target for antibiotic prescribing rate. e.g. 1 in 3 immediate, 1 in 3 delayed, 1 in 3 no antibiotic)

**References**

1. National Institute for Health and Care Excellence. 2021. Clinical Knowledge Summaries - Sinusitis. Available at: <http://cks.nice.org.uk/sinusitis#!topicsummary> [Accessed3rd November 2022].
2. National Institute for Health and Care Excellence. 2017. NICE Guideline NG79: Sinusitis (acute): antimicrobial prescribing. Available at: <https://www.nice.org.uk/guidance/ng79> [Accessed 3rd November 2022].
3. NICE/UKHSA. (February 2019). Summary of antimicrobial prescribing guidance – managing common infections. [ONLINE] Available at: [BNF hosts antimicrobial summary guidance on behalf of NICE and PHE - BNF Publications](https://www.bnf.org/news/2021/07/29/bnf-hosts-antimicrobial-summary-guidance-on-behalf-of-nice-and-phe/) [Accessed 3rd November 2022].