Quick reference guide

NICE

- Patients over the age of 55, with recent onset, unexplained and persistent dyspepsia (over 4-6 weeks) should be referred urgently for endoscopy to exclude cancer.[1D]

WHEN SHOULD I TEST FOR *HELICOBACTER PYLORI*?

- Patients with uncomplicated dyspepsia unresponsive to lifestyle change and antacids, following a single one month course of proton pump inhibitor (PPI), without alarm symptoms.[2D,3A-,4A-,5A-,6A-]
  Note: Options should be discussed with patients, as the prevalence of HP in developed countries is falling,[7B+,8B-,9B+] and is lower than 15% in many areas in the UK.[10B+,11D] A trial of PPI should usually be prescribed before testing, unless the likelihood of HP is higher than 20%[11A-] (older people; people of North African ethnicity;[8B-,9B+] those living in a known high risk area), in which case the patient should have a test for HP first, or in parallel with a course of PPI.
- Patients with a history of gastric or duodenal ulcer/bleed who have not previously been tested.[11C]
- Patients before taking NSAIDs, if they have a prior history of gastro-duodenal ulcers/bleeds.
  Note: Both HP and NSAIDs are independent risk factors for peptic ulcers, so eradication will not remove all risk.[11A-]
- Patients with unexplained iron-deficiency anaemia, after negative endoscopic investigation has excluded gastric and colonic malignancy, and investigations have been carried out for other causes, including: cancer; idiopathic thrombocytopenic purpura; vitamin B12 deficiency.[11D]

WHEN SHOULD I NOT TEST FOR *HELICOBACTER PYLORI*?

- Patients with proven oesophagitis, or predominant symptoms of reflux, suggesting gastro-oesophageal reflux disease (GORD).[2D,11D,12A+]
- Children with functional dyspepsia.[13A+,14A+]

WHICH NON-INVASIVE TEST SHOULD BE USED IN UNCOMPLICATED DYSPEPSIA?

- Urea breath tests (UBTs)[15A+,16C,17B+] and stool antigen tests (SATs) are the preferred tests.[11A+]

Urea Breath Test (UBT): most accurate test.[2D,15A+,16C,17B+]
- needs a prescription and staff time to perform

Stool Helicobacter Antigen Test (SAT): check test availability.[18A+,19A+]
- pea-sized piece of stool sent to local laboratory

→ **DO NOT** perform UBT or SAT within two weeks of PPI,[20B+,21B+] or four weeks of antibiotics,[19A+,22A+] as these drugs supress bacteria and can lead to false negatives.

Serology: whole blood in plain bottle; low cost, lower accuracy.[2D,16A-,23A+]
- not recommended for most patients, and positives should be confirmed by a second test such as UBT, SAT[24D] or biopsy[11D,15A+]
- has very good negative predictive value at current; low prevalence in the developed countries[7B+,8B-,9B+,10B+,11D]
- most useful in patients with acute gastrointestinal bleed, to confirm negative UBT or SAT, when blood and PPI use interacts with tests[19A+]
- detects IgG antibody;[25A+] does not differentiate active from past infection[19A+]

→ **DO NOT** use near patient serology tests, as they are not accurate.[2D,11D,16A-]

→ **DO NOT** use serology post-treatment.

→ **DO NOT** use serology in the elderly or in children.[13A+,14A+]

WHEN SHOULD I TREAT *HELICOBACTER PYLORI*?

HP POSITIVE → Treat *H. pylori*.[2D,11D,22A+,26B-]

HP NEGATIVE → Reassure, as NPV of all tests is >95%.[16C] → Only retest for HP if DU, GU, family history of cancer, MALToma, or if test was performed within two weeks of PPI, or four weeks of antibiotics.[21B+,27C] → If *H. pylori* negative, treat as functional dyspepsia. Step down to lowest dose PPI or H_2A needed to control symptoms. Review annually, including PPI need.[2D,28D]

ASYMPTOMATIC post-HP treatment[2D,3A-,4A-] → Only retest for HP if DU, GU, family history of cancer, MALToma, or if test was performed within two weeks of PPI, or four weeks of antibiotics.[21B+,27C]

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TREATMENT REGIMENS FOR *HELICOBACTER PYLORI*

- ☐ Check antibiotic history as each additional course of clarithromycin, metronidazole or quinolone increases resistance risk.[11D,22A+,29B-,30A-,31A+,32A-] Stress the importance of compliance.[2A-,27C,32A-]

NO PENICILLIN ALLERGY

FIRST-LINE: 7 days, PPI twice daily[2A-,30A-,31A+]
PLUS amoxicillin 1g BD
PLUS either clarithromycin 500mg BD OR metronidazole 400mg BD

ONGOING SYMPTOMS after first-line

SECOND-LINE: 7 days, PPI twice daily[2A-,30A-,31A+]
PLUS amoxicillin 1g BD
PLUS second antibiotic not used in first line, either clarithromycin 500mg BD OR metronidazole 400mg BD

ONGOING SYMPTOMS after first-line AND previous exposure to MZ and CLAR

SECOND-LINE, 7 days, PPI twice daily[2A-,30A-,31A+]
PLUS amoxicillin 1g BD
PLUS second antibiotic, either tetracycline hydrochloride 500mg QDS OR levofloxacin 250mg BD[30A-,31A+,33A+,34A+]

PENICILLIN ALLERGY

FIRST-LINE: 7 days, PPI twice daily[2A-,30A+,31A+]
PLUS clarithromycin 500mg BD
PLUS metronidazole 400mg BD

First-line with previous CLAR exposure OR Second-line with previous levofloxacin exposure

7 days, PPI twice daily[2A-,30A+,31A+]
PLUS bismuth subsalicylate 525mg QDS[35A+,36A+,37A+,38D]
OR tripotassium dicitratobismuthate 240mg QDS[39D]
PLUS tetracycline hydrochloride 500mg QDS[2A-]
PLUS metronidazole 400mg BD[2A-]

ONGOING SYMPTOMS after first-line and NO previous exposure to levofloxacin

SECOND-LINE: 7 days, PPI twice daily[2A-,30A+,31A+,33A+]
PLUS metronidazole 400mg BD[2A-]
PLUS levofloxacin 250mg BD[31A+,33A+,34A+]

- ☐ PPI medication: lansoprazole 30mg BD, omeprazole 20-40mg BD, pantoprazole 40mg BD, esomeprazole 20mg BD, rabeprazole 20mg BD.[38D]
- ☐ If post gastro-duodenal bleed, start HP treatment only when patient can take oral medication.[40A+]
- ☐ If diarrhoea develops, consider *Clostridium difficile* and review need for treatment.
- ☐ Only offer longer duration or third-line eradication on advice from a specialist.[2D] Third line: 10 days of PPI twice daily, PLUS bismuth subsalicylate 525mg QDS, PLUS 2 antibiotics as above not previously used, OR rifabutin 150mg BD, OR furazolidone 200mg BD.[31A+,33A+,41A-,42A+,43D]

WHEN SHOULD I RETEST FOR *HELICOBACTER PYLORI*?

- ☐ As 64% of patients with functional dyspepsia will have persistent recurrent symptoms, do not routinely offer re-testing after eradication.[2D]

- if compliance poor, or high local resistance rates[11D,29B-]
- persistent symptoms, and HP test performed within two weeks of taking PPI, or within four weeks of taking antibiotics[19A+,20B+,21B+,22C]
- patients with an associated peptic ulcer or MALT lymphoma, or after resection of an early gastric carcinoma[2D,27D]
- patients requiring aspirin, where PPI is not co-prescribed[2D]
- patients with severe persistent or recurrent symptoms, particularly if not typical of GORD[11D,26C]

→
- UBT is most accurate[15A+,16C]
- SAT is an alternative[15A+,18A+]

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Wait at least four weeks (ideally eight weeks) after treatment.[11D,19A+] If acid suppression needed use H_2 antagonist.[39D]

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Use second-line treatment if UBT or SAT remains positive[2D]

DO NOT use serology for re-testing[2D,15A+,16C]

WHAT SHOULD I DO IN ERADICATION FAILURE?

- ☐ Reassess need for eradication.[2D] In patients with GORD or non-ulcer dyspepsia, with no family history of cancer or peptic ulcer disease, a maintenance PPI may be appropriate.[2D,26C]

WHEN SHOULD I REFER FOR ENDOSCOPY, CULTURE AND SUSCEPTIBILITY TESTING?

- ☐ Patients in whom the choice of antibiotic is reduced due to hypersensitivity, known local high resistance rates, or previous use of clarithromycin, metronidazole, and a quinolone.[2A-,11D,28D]
- ☐ Patients who have received two courses of antibiotic treatment, and remain HP positive.[2D,11D,28D]
- ☐ For any advice, speak to your local microbiologist, or the *Helicobacter* Reference Laboratory.

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