

Urinary Tract Infections in Children

Heather Kennedy

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Objectives

- National Group
- Preparation & Project Plan
- Module content
- The next steps

National Paediatric Steering Group

- Multi disciplinary group – set up in 2018
- Stewardship and antibiotic use in paediatrics
- UTI management raised as area of concern
 - Resistance rates rising around trimethoprim
- Educational resource needed to provide some consistency around management of UTIs
- Existing packages – ScRAP
- Early 2019 – secondment opportunity

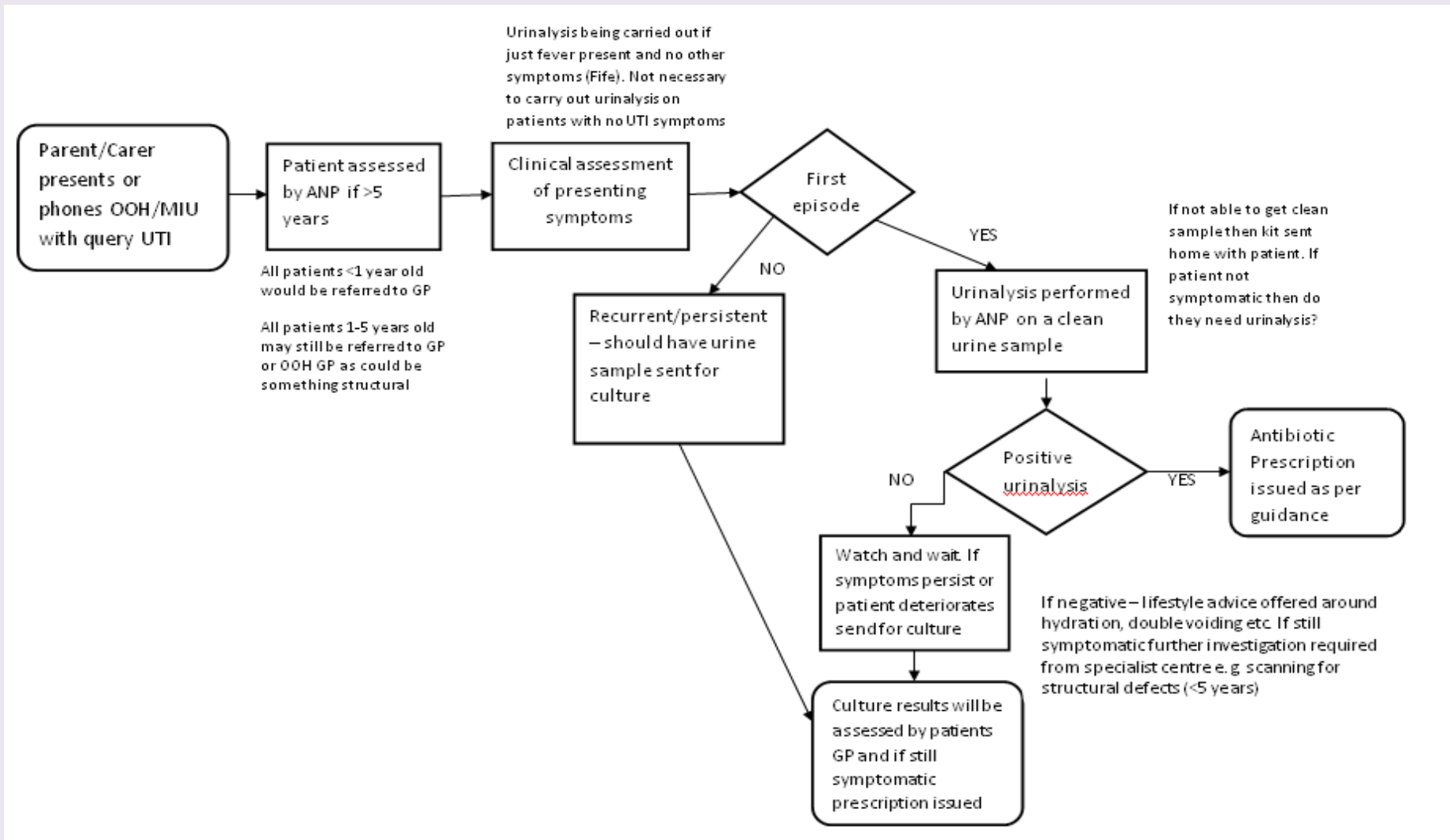
Where do you start????

- Phoned Anne!
- Project Plan for next 6 months
- Literature Search – UK, Europe, Global
- Current Guidelines –
 - NICE – UTI in Children 2017
 - PHE – Diagnosis and Flow chart 2018
 - American
 - European
 - Various local protocols

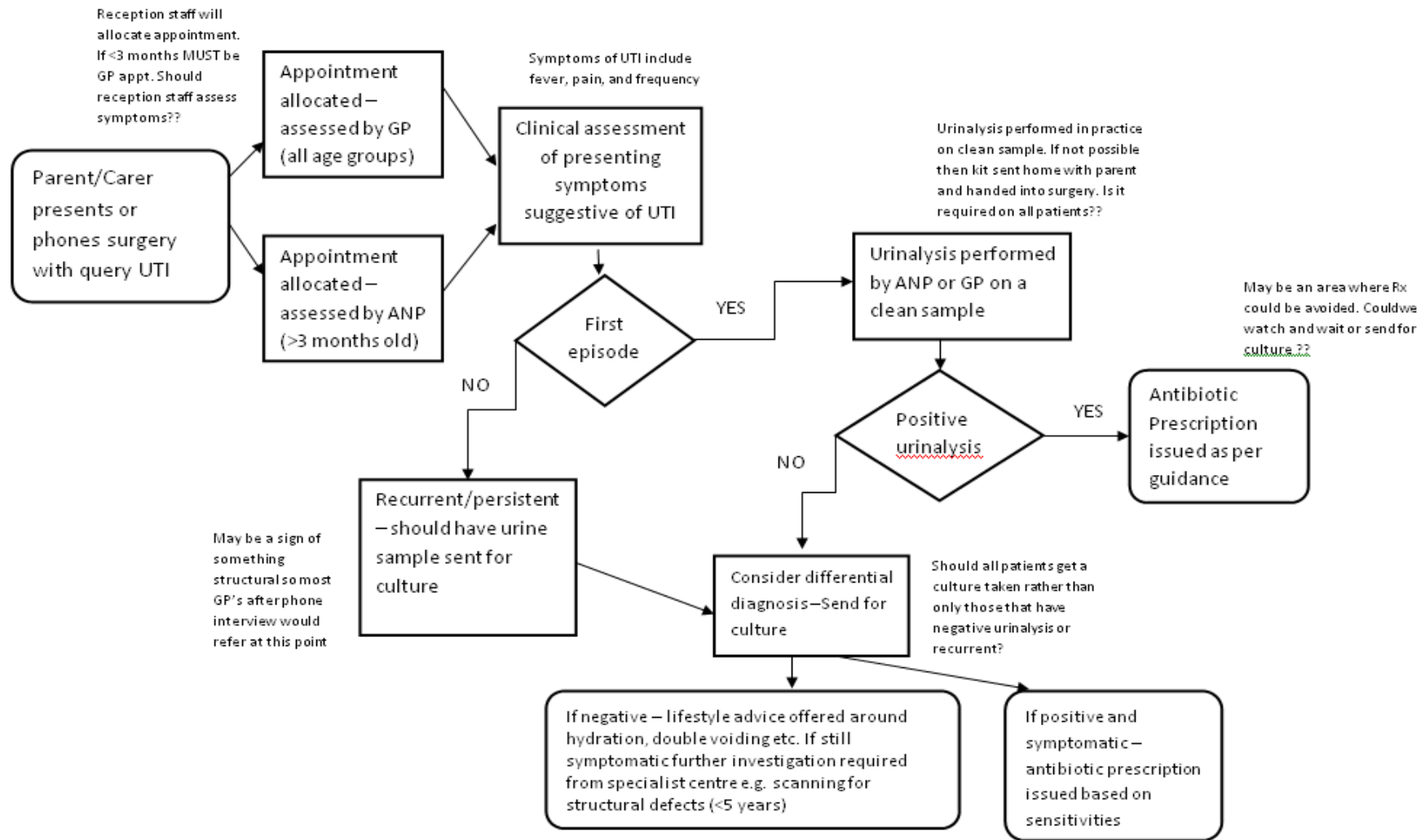
What currently happens?

- Interviews from various health boards– GPs, ANPs from practice & OOHs
 - How are children with UTI symptoms managed?
 - Does that change depending on where they present?
- Process map
 - to identify all the steps and decisions of an existing *process* in diagrammatic form, which helps identify improvement opportunities so that they can improve efficiency within an organisation

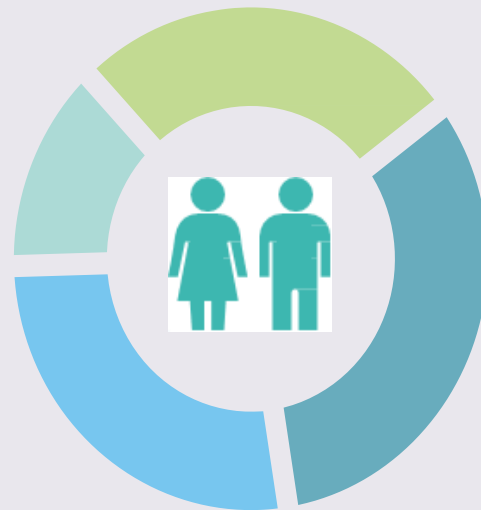
Process map – OOHs



Process map – GP Practice



Improving the Management of Uncomplicated UTI in Paediatrics

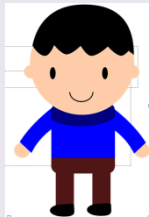


Facilitated Learning Session

The Module (2 parts) – incl facilitator notes

Part 1

- David 3 year old presents to GP
- Urinalysis vs culture (inc interpretation)
- Treatment options
- Recurrent vs persistent
- Antibiotic Prophylaxis



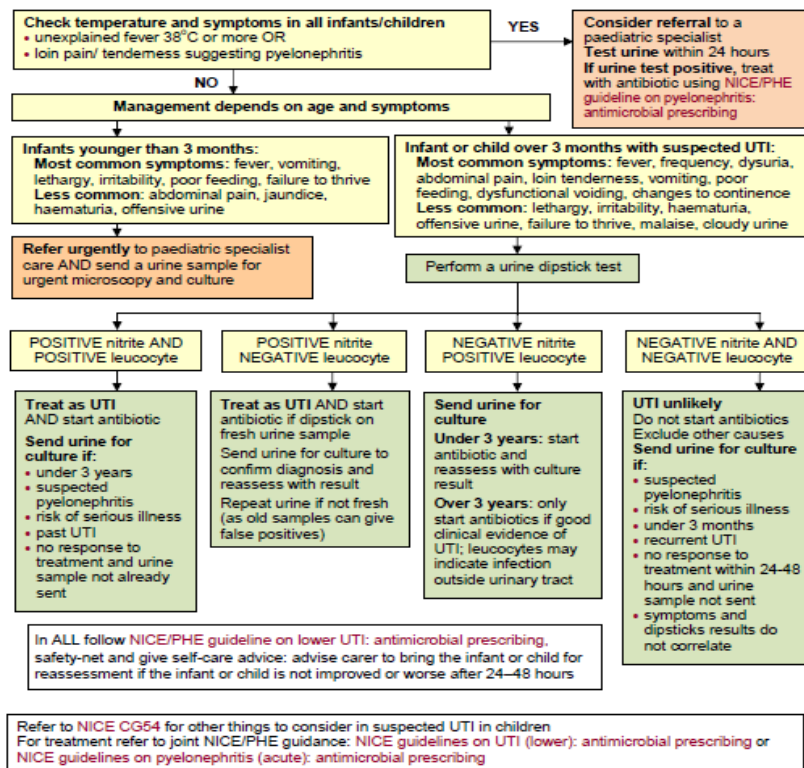
Part 2

Alternative therapies

- Self management
- Hydration
 - National Hydration Campaign

Flowchart for infants/children under 16 years with suspected UTI^{14a}

Consider UTI in any sick child and every young child with unexplained fever



Key points for infants/children under 16 years with suspected UTI

Sampling in children:

- if sending a urine culture, obtain sample before starting antibiotics^{14a}
- if child has alternative site of infection do not test urine unless remain unwell - then test within 24 hour^{14a}
- in infants/toddlers, clean catch urine advised;^{14a, 40-5a} gentle suprapubic cutaneous stimulation using gauze soaked in cold fluid helps trigger voiding;²⁰ clean catch urine using potties cleaned in hot water with washing up liquid;²⁰ nappy pads cause more contamination, and parents find bags more distressing²⁰
- if non-invasive not possible consider: catheter sample, or suprapubic aspirate (with ultrasound guidance)^{14a}
- culture urine within 4 hours of collection, if this is not possible refrigerate, or use boric acid preservative. Boric acid can cause false negative culture if urine not filled to correct mark on specimen bottle^{14a}

Interpretation of culture results in children:

- single organism $\geq 10^5$ cfu/L (10^3 cfu/mL) may indicate UTI in voided urine^{14a, 5a}
- any growth from a suprapubic aspirate is significant^{14a, 5a}
- pyuria $\geq 10^1$ WBC/L (10^1 WBC/mL) usually indicate UTI, especially with clinical symptoms but may be absent^{14a, 5a}

Other diagnostic tests: do not use CRP to differentiate upper UTI from lower UTI^{14a}

Ultrasound:

- if proven UTI is atypical (seriously ill, poor urine flow, abdominal or bladder mass, raised creatinine, septicaemia, failure to respond to antibiotic within 48 hours, non-*E.coli* infection): ultrasound all children in acute phase and undertake renal imaging within 4-8 months if under 3 years^{14a}
- ALL ages with recurrent UTI^{14a}
- for children under 6 months OR those with non-*E.coli* UTI: ultrasound within 6 weeks if UTI not atypical AND responding to antibiotics^{14a}

Refer to NICE CG54 for other things to consider in suspected UTI in children

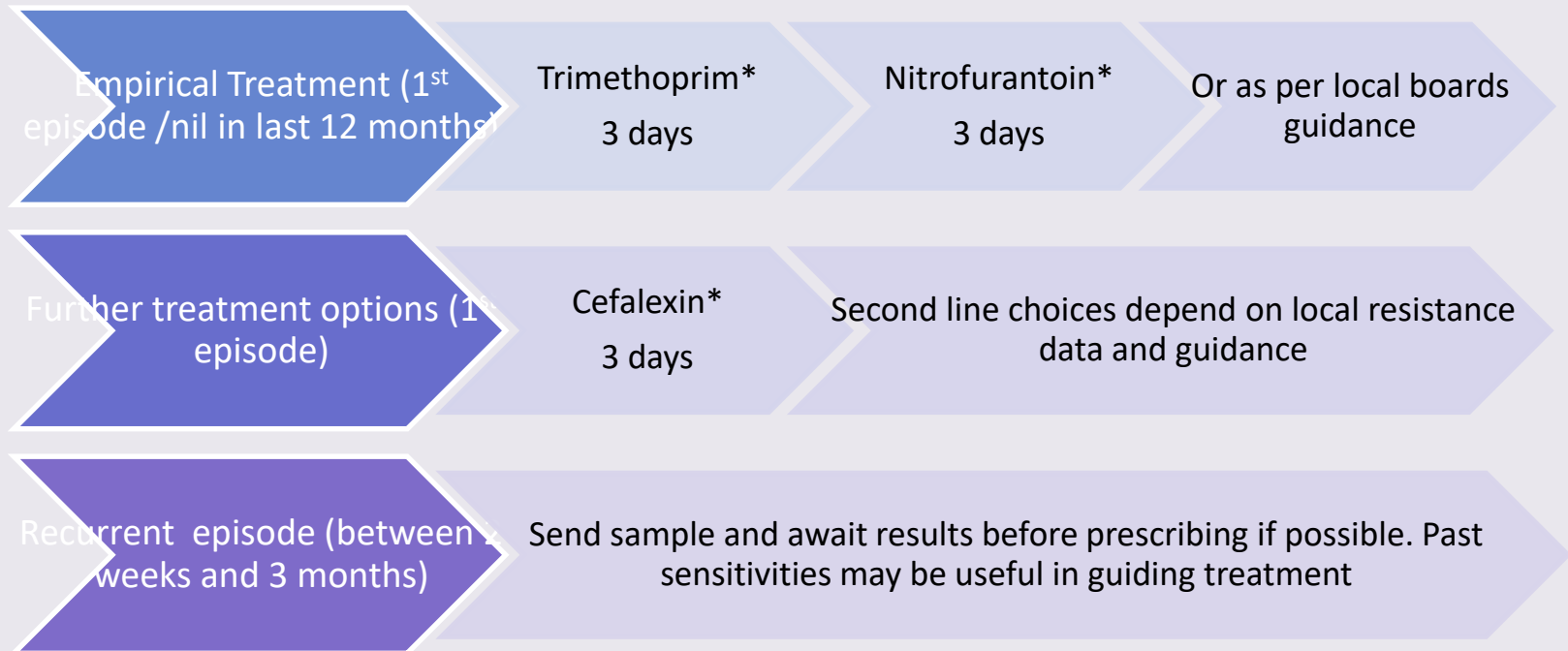
For treatment refer to joint NICE/PHE guidance:

NICE guidelines on UTI (lower): antimicrobial prescribing or NICE guidelines on pyelonephritis (acute): antimicrobial prescribing

Key: | Urgent alert | UTI signs/symptoms | Action advised | Other advice |

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/755891/PHE_UTI_flowchart_-_children.pdf


Which antibiotic???




- Subject to board variation

Pilot

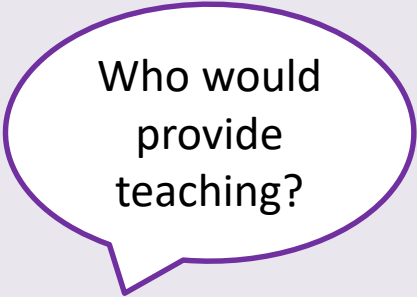
- Approx 20 GPs across NHS Tayside (spread across localities)
- Worked through module – feedback



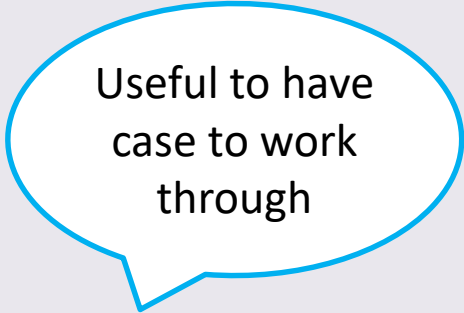
Overall
good
module



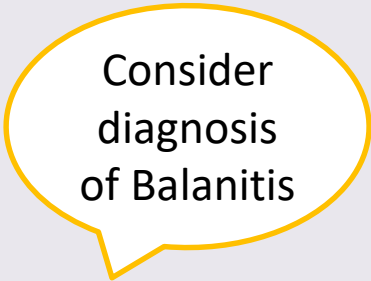
Good level
of content



Who would
provide
teaching?



Useful to have
case to work
through



Consider
diagnosis
of Balanitis

The next steps...

- Link with NES
- Module rolled out as a national resource
- National group working towards national policy

Acknowledgements

- Anne Thomson
- Jacqueline Sneddon
- Conor Doherty
- William Malcolm
- All members of National Paediatric Steering Group
- ASAP members

Thank You

Any Questions?