• Pseudochromhidrosis is the result of colourless perspiration that acquires colour when it reaches the skin and comes into contact with an external chromogen such as chromogenic bacteria (for example Corynebacterium species), fungi or dye from clothing.
• Pseudochromhidrosis can present with a variety of colours depending on the aetiology. Involvement of the face, palms, or neck is most frequently reported, although it can present anywhere on the body.

Case
• A fifteen year old boy with no significant past medical history was referred to CAU with three weeks of developing blue/grey patches intermittently on his skin.
• These episodes occurred daily with differing distributions, not coinciding with a particular time of day, nor a particular activity level.
• Examination revealed blue/grey patches on the patient’s hands and elbows bilaterally.
• Thorough examinations, observations and haematological/biochemical investigations to identify a cause of presumed cyanosis were all normal.
• Bacterial and fungal cultures of the skin were negative.
• The affected areas were wiped with a damp cloth – there was evidence of blue/grey staining on the cloth following this.
• Given the patient was systemically well, the transient nature of episodes and being able to wipe the coloured fluid from the skin, a preliminary diagnosis of pseudochromhidrosis was made.
• Formal diagnosis has been challenging as the patient is reluctant to undergo further investigations, including skin biopsies. In the interim, he is using antiseptic skin scrubs to help control episodes.

Learning points
• There are no known causes or associations for (pseudo) chromhidrosis.
• Diagnosis of chromhidrosis is made through identifying lipofuscin granules in a skin biopsy. Pseudochromhidrosis is a clinical diagnosis based on exclusion of chromhidrosis.
• Evidence regarding optimal therapy is limited. Satisfactory elimination has been challenging as the patient is reluctant to undergo further investigations, including skin biopsies. In the interim, he is using antiseptic skin scrubs to help control episodes.
• There are no known medical sequelae other than social embarrassment and psychological stress.

Aims To assess the utility of a validated clinical risk score (Brent et al. 2012) to stratify febrile children presenting to the emergency department, as high or low risk of serious bacterial infection (SBI). To further assess clinician’s gut feeling in identifying those children with SBI.

Methods A prospective cohort study of children aged <17 years presenting to a children’s emergency department, with an actual or reported temperature >37.5°C and requiring blood tests as part of their medical management, were recruited between February 2014–January 2017. For each participant the validated clinical risk score was completed using triage and clinician documentation. Clinician’s ‘gut feeling’ was recorded prior to results review and management plan formation. SBI was defined according to criteria described by the original validation study. Final diagnoses were assigned as definite/probable bacterial or viral infection or indeterminate.

Results 200 children were recruited, 9 subsequently excluded, leaving 191 (median age 2.1 years (IQR 0.9–4.2) for analysis. 164 (85%) participants had scores≥5 suggesting low risk of SBI. Of these 46/164 (29%) had SBI. 8 participants had high risk scores>8 suggestive of an SBI and of these only 4/8 (50%) had an SBI. Where clinician’s gut feeling was recorded as ‘No SBI’, 49% (34/69) of children had a bacterial infection. Where clinician’s gut feeling was recorded as ‘not sure/possibly’ for SBI, 21% (22/104) had bacterial infection. Analysis of blood markers revealed total WCC and neutrophil count were not useful discriminators of SBI (AUC WCC 0.6, neutrophils AUC 0.7.) CRP was significantly higher in the groups definite and probable bacterial infection [(AUC CRP 0.86 (p<0.0001)].

Conclusions The validated clinical risk score for SBI did not effectively ‘rule out’ or ‘rule in’ serious bacterial infection in this cohort. Clinician’s gut feeling was not helpful in identifying definite bacterial or probable bacterial infection. As anticipated CRP was a useful indicator of bacterial infection but has limitations as it is used as part of the categorisation of serious bacterial infection.
Conclusion and recommendations Using our data and incorporating DATIX and SI reporting, we secured financial and managerial investment to implement our recommendations. Our primary intervention was the creation of an in-hours nurse-led jaundice clinic. This alternative pathway is intended to relieve burden in ED and facilitate access to faster assessment and treatment. For patients presenting out of hours, we improved point of care testing by obtaining a transcutaneous bilirubinometer and recalibrating the blood gas analyser to improve accuracy thus removing the need for processing lab serum samples. Education targeted at triage nurses in ED has enabled them to initiate basic investigations and management whilst awaiting medical assessment. Going forward, we have also been able to secure an application for a Biliblanket which will aid the timely administration of phototherapy in ED.

A re-audit of three months of data following implementation of these initiatives has shown a 56% reduction in mean waiting time for bilirubin results and 49% reduction in mean time spent in ED.

This project highlighted the benefit of a multifaceted approach to quality improvement, incorporating multiple pillars of clinical governance to advance patient care.

Background Despite the fact that evidence based guidelines are widely available adherences to them remains unsatisfactory. Embedding guidance and decision support into clinical work processes at the bedside might improve this.

Aim We turned eight existing clinical guidelines into ‘clinical pathways’ embedded in paediatric Emergency Department (ED) workflow, which obviates the need to learn or look up a guideline, and gives clinical decision support at the bedside. We hypothesise that this would improve guideline compliance and reduce unplanned clinical variation.

Methods Clinical pathways were created for the most common and/or important presentations to paediatric ED, namely ‘Wheezy Child under 5 years of age’, ‘Child with fever and cough’, ‘Non-blanching rash’, ‘Diarrhoea and Vomiting’ and/or important presentations to paediatric ED, namely ‘Wheezy Child under 5 years of age’, ‘Child with fever and cough’, ‘Non-blanching rash’, ‘Diarrhoea and Vomiting’.

Activation of the pathway is part of the ED clinical notes. The pathway guides clinician decision making, from treatment and investigations options (including reminders of unnecessary or non-evidence-based interventions); criteria for discharge, referral and admission; and patient information.

Results Pathways were well received and comprehensively implemented. At time of writing, clinical outcomes are available for four of the pathways. Results include reduction of the inappropriate use of nebulisers from 75% to 25%, reduced readmissions from 29% to 0%; more appropriate use of prednisolone and reduced requests for chest x-rays (for wheeze); increased urine sampling from 28% to 52% and more appropriate admissions and halved readmission rates for diarrhoea and vomiting; reduced readmissions from 22% to 0% for stridor; reduced admission rate from 75% to 40% for febrile convulsion.

Conclusion The creation of clinical pathways, embedding existing clinical guidelines into routine care processes, has improved guideline adherence, improved clinical outcomes and reduced clinical variation.

REFERENCE