PAEDIATRIC ACUTE CARE GUIDELINE	
Vomiting	
Scope (Staff):	All Emergency Department Clinicians
Scope (Area):	Emergency Department

This document should be read in conjunction with this DISCLAIMER
http://kidshealthwa.com/about/disclaimer/

Vomiting

Background

- Vomiting is one of the most common reasons for parents to take their child to see a doctor
- Infection is the most common cause of vomiting in children, gastroenteritis being the leading cause
- However, **not all that vomits is gastroenteritis**
- Vomiting can be caused by a wide range of conditions, from the benign to the life threatening
- Vomiting can be caused by a problem in many organ systems: gastrointestinal, neurological, endocrine etc

Assessment

- The younger the child, the less specific vomiting is as a localising sign for the cause
- In infants, positing and gastro-oesophageal reflux are “normal”, and are only a problem if they cause pain, failure to thrive or choking / apnoeas
- Vomiting is rarely caused by constipation alone
- Bilious vomiting implies bowel obstruction distal to the ampulla of Vater, or dynamic ileus secondary to peritonitis, sepsis etc
- Vomiting of fresh blood usually implies bleeding proximal to the gastric cardia
- Vomiting of altered blood (“coffee ground”) implies exposure of the blood to gastric juices over a period of time
- Vomitus with a faecal odour is consistent with peritonitis or a low GIT obstruction

History

Important Elements of the History:

- Nature of the vomiting:
  - Colour: blood or bile
  - Composition: undigested or digested food
  - Frequency and progression
  - Force: projectile?
  - Relationship to feeding and position

- Bowel actions:
  - Child's usual pattern
  - When was stool last passed?
  - Diarrhoea, with blood or mucous

- Abdominal pain
- Abdominal distension – may suggest lower bowel obstruction
- Infectious contacts
- Febrile – vomiting in an afebrile child may indicate a more serious cause
- Symptoms of a UTI – vomiting may be the only sign in infants
- Preceding respiratory / diarrhoeal illness - consider as a cause of intussusception
- Cough, grunting, respiratory distress – suggesting pneumonia
- Features of CNS infection or raised intracranial pressure
- History of trauma (especially head and abdomen)
- Medications possibly causing a GIT upset (e.g. antibiotics)
- Possibility of accidental poisoning
- Neonates – delayed passage of meconium following birth (e.g. > 48 hours after delivery), or vomiting / abdominal distension in the first 36 hours of life

Examination

- Full general examination: cardioavascular, respiratory, ENT etc
- Gastrointestinal exam: careful examination of abdomen, groin in both sexes and scrotum in boys
- CNS: specifically look for signs of raised intracranial pressure and abnormal neurological signs

Investigations

- Pre-school children with unexplained vomiting should have urinalysis (and urine culture if appropriate) performed to exclude UTI. See ED Guideline: Urinary Tract Infection

- If abdominal trauma has occurred, presence of haematuria on urinalysis may indicate renal or urinary tract trauma. See ED Guideline: Abdominal Trauma
- Special investigations should only be done after discussion with a Senior Emergency Doctor

Investigation	Indications
FBC, CRP and Blood culture	Septic child - ? peritonitis
Stool microscopy and culture	Septic child, Blood or mucus in stools, Protracted diarrhoea
U&E	Profuse / prolonged vomiting Severe dehydration
Glucose	Suspected diabetic ketoacidosis
Venous blood gas	Suspected diabetic ketoacidosis Acidotic, Profuse vomiting, IDDM with vomiting
LFT, Amylase	Pancreatitis Abdominal trauma
Abdominal X-Ray	Any suspicion of bowel obstruction or peritonitis Abdominal trauma Constipation is not an indication
Abdominal ultrasound (in discussion with surgeon or Senior ED Doctor)	Suspected pyloric stenosis Suspected intussusception Occasionally for suspected appendicitis Gynaecological problems Suspected cholecystitis/cholelithiaisis Suspected kidney stones/renal mass

Differential Diagnosis

Causes of Vomiting by Age			
Neonates and Infants	**Children**	**Adolescents**	**All Infants, Children and Adolescents**
Gastro-oesophageal reflux	Diabetic ketoacidosis	Diabetic ketoacidosis	Gastroenteritis
Pyloric stenosis	Appendicitis	Appendicitis	Urinary Tract Infection
Dietary protein induced enteritis	Oesophagitis	Psychogenic, eating disorder	URTI: tonsillitis, pharyngitis
Intussusception	Cyclical vomiting syndrome	Cyclical vomiting syndrome	GIT obstruction: malrotation with volvulus
Hirschsprung disease		Gastric ulcer	Hepatobiliary, pancreatic disease
Metabolic disorders		Pregnancy	Adrenal crisis
			Poisoning - toxic ingestion, self harm

			CNS: infection (e.g. meningitis), increased intracranial pressure (e.g. malignancy), head injury

Management

- If shocked, correct with IV boluses of 20mL/kg of 0.9% saline and repeat if required. See ED Guideline: Fluids - Intravascular Therapy
- If gastroenteritis is the cause of vomiting, manage as per ED Guideline: Gastroenteritis
- Consider referral to the General Surgical Team if there is:
    - Bile stained vomiting
    - Bloody stools (unless explained by a medical cause such as bacterial dysentery)
    - Abdominal distension
    - Signs of peritonism: guarding, rebound tenderness, localised abdominal tenderness
    - Palpable abdominal mass
    - Inguinoscrotal / testicular pain or swelling
    - Diagnosis unclear (unless trivial symptoms in a well child)

- Correct dehydration and electrolyte abnormalities (e.g. hypokalaemia) as necessary
- If bowel obstruction is present, keep fasted, insert a nasogastric tube and leave the tube on open drainage

Medications

- The use of anti-emetic medications such as ondansetron (dose 0.1-0.15mg/kg sublingual or IV) should not be routinely used, but can be considered in:
    - Gastroenteritis: to allow succesful rehydration (oral or via nasogastric tube) to occur
    - Cyclical vomiting syndrome. See ED Guideline: Cyclical Vomiting
- Use of anti-emetic medications such as metoclopramide and prochlorperazine are not recommended for children because of a significant risk of serious extra-pyramidal side effects and dystonic reactions.

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