

Evidence based guideline for the management of diarrhoea with or without vomiting in children

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on behalf of the Health for Kids Guideline Development Group

Acute diarrhoea in children is a common presentation in both the general practice and hospital emergency department settings. Current practice focuses on the prevention and management of dehydration in young children. However, general practitioners may not be aware of recommendations against the use of routine investigation, antidiarrhoeals and antiemetics in children or recommendations regarding dietary advice. This resource provides an evidence based guideline for the management of diarrhoea with or without vomiting in children in general practice, which is endorsed by The Royal Australian College of General Practitioners.

■ The management of gastroenteritis or acute infectious diarrhoea (usually lasting less than 7 days) is a common consultation for Australian general practitioners and a common presenting complaint in hospital emergency departments. Parents or carers consult a GP in up to 75% of cases of childhood gastroenteritis, seek advice from accident and hospital emergency departments in about 50% of cases, and from pharmacists in about 5% of cases.^{1,2}

The scope of this guideline

This guideline refers to the child presenting to either a hospital emergency department or a general practice with acute diarrhoea (<7 days) with or without vomiting, and purposefully excludes children presenting with vomiting alone, those with acute causes of diarrhoea other than gastroenteritis (eg. urinary tract infection, acute appendicitis, peritonitis, intussusception and antibiotic toxicity), chronic diarrhoea (>7 days), and children less than 3 months of age. The guideline covers:

- symptoms and signs that may alert the clinician to diagnoses other than infectious gastroenteritis
- assessment of the degree of dehydration
- indications for laboratory investigations
- management of rehydration and indications for oral, nasogastric and intravenous routes
- management of hypernatraemia and lactose intolerance
- infection control issues, and
- indications for admission and discharge.

The full guideline can be found at www.mihsr.monash.org/hfk/pdf/diarrhoea-sh-infect-cont-20051122.pdf.

How was this guideline developed?

The process by which these guidelines were developed is outlined in the introduction to this *Australian Family Physician* supplement. Using the search strategy described, a relevant, recent, high quality United Kingdom evidence based clinical practice guideline³ on the emergency department management of diarrhoea in children with or without vomiting was identified and adapted (with permission). The scope of this guideline was expanded to include management of diarrhoea by both GPs and on hospital inpatient wards. This required some additional content. Changes have also been made to align consensus recommendations with local practice and to adapt recommendations for local use.

Recommendations

Diagnosis

While there is a great variability in stool patterns among healthy infants, diarrhoea is defined as a change in bowel habit for the individual child resulting in substantially more frequent and/or looser stools.

Differential diagnoses

Table 1 lists the differential diagnoses that should be considered in a child who presents with diarrhoea.

Investigations

Stool culture

Diagnosing the aetiological agent responsible for the diarrhoea may be important to the individual, however treatment of the causative organism is rarely necessary and therefore stool culture for this reason alone is not productive. Some might argue that we would have a clearer idea of the prognosis if we knew the aetiology. However with respect to acute risk of dehydration this does not seem to be the case. From a public health point of view it is clearly important to know which organisms in the community are causing infections, and more specifically whether there is any evidence of outbreaks of disease. With respect to food poisoning (shigella, salmonella, campylobacter) it is important that the source of any outbreak is traced and dealt with. So when should a GP carry out a stool culture in the setting of acute diarrhoea? Several factors are predictive of bacterial infection and can be used to guide investigation with stool culture.⁴⁻⁶

There is no evidence to support routine stool culture. The following clinical features are associated with an increased risk of bacterial gastroenteritis and hence a stool sample should be sent for culture:

- C**
- a history of blood with or without mucous in the stool
 - a combination of abrupt onset of diarrhoea with more than four stools per day and no vomiting pre-diarrhoea
 - temperature >40 degrees
 - five or more stools in the previous 24 hours
- D**
- systemically unwell, severe or prolonged diarrhoea
 - a history suggestive of food poisoning
 - recent history of travel overseas

Biochemistry

Several hospital cohort studies⁷⁻¹⁰ have found that derangement of electrolytes in acute gastroenteritis in developed countries is now rare so routine blood biochemistry is also not recommended in the setting of acute diarrhoea.

- D** There is no evidence to support routine analysis of electrolytes, urea/creatinine or bicarbonate
- The child who presents with diarrhoea with or without vomiting should have blood taken for urea/creatinine, electrolytes and bicarbonate in the following circumstances:
- severe dehydration with circulatory compromise
 - moderate dehydration where there is concern that the child may be hypernatraemic
 - moderate dehydration where diagnosis is unclear or there are other comorbid factors
 - when intravenous rehydration is required
 - when there is a 12 hour or greater history of anuria

Assessment

Assessment of diarrhoea is focused on classification of severity of dehydration as either:

- mild
- moderate, or
- severe.

Infants and children with diarrhoea with or without vomiting who are not drinking adequately can become dehydrated very quickly, with serious consequences if the dehydration is not promptly addressed. The severity of dehydration is most accurately assessed in terms of weight loss as a percentage of total body weight (before the dehydrating episode). An accurate weight immediately pre-illness is however, rarely available in the clinical situation.

A systematic review¹¹ of the accuracy of symptoms, signs and basic laboratory tests for assessment of severity of dehydration in children aged 1 month to 5 years found that capillary refill time, skin turgor and respiratory pattern were the most useful measures of dehydration. This review also found that while parental report of normal urine output decreased the likelihood of dehydration, history of low urine output did not increase the likelihood of dehydration. Clinical indicators and tests for dehydration in children are imprecise; therefore combinations of measures – rather than single measures – improve diagnostic accuracy.

- A** In children with diarrhoea, signs of dehydration are imprecise making it difficult to accurately assess the severity of dehydration
- A** Capillary refill time, skin turgor and respiratory pattern are the most useful measures of dehydration. Assessment of severity of dehydration should be made on the basis of these measures, and other key measures, in combination
- A** Parental report of normal urine output decreases the likelihood of dehydration. However reported history of low urine output does not increase the likelihood of dehydration

Patients at high risk

- D** The following factors in the history of a child presenting with diarrhoea should alert the clinician to a high risk of dehydration:
- infants <6 months of age
 - more than eight significant diarrhoeal stools in the past 24 hours
 - more than four significant* vomits associated with diarrhoea in the past 24 hours
 - comorbid conditions such as short gut or metabolic illnesses and developmental delay
 - refusal of oral fluids

* A 'significant' vomit is anything more than an effortless, small volume posit

Nonpharmacological management

The overriding principles of the management of gastroenteritis are rehydration and prevention of dehydration. There is clear evidence for the use of oral rehydration in the management of mild to moderate dehydration.¹²

A Oral rehydration should be the standard treatment for children with mild to moderate dehydration secondary to gastroenteritis

Examples of oral rehydration solutions (ORS) available in Australia include Hydralyte, Gastrolite, Pedialyte, and Repalyte. Water, fruit juice, cordial and soft drinks are generally low in sodium and potassium and high in sugar, making them less effective than ORS in replacing lost electrolytes and fluid in dehydrated children. Sports drinks are also unsuitable as they have approximately five times too much sugar and 10 times too little sodium compared to ORS. If children refuse ORS, use unsweetened fruit juice diluted 1 part in 4, or cordial (not diet) diluted 1 part in 10.

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- D Oral rehydration solution is more effective than water, diluted fruit juice, diluted soft drinks or diluted cordial in rehydrating children with diarrhoea**
 - D Children with mild dehydration or those children with diarrhoea at risk of dehydration should be given usual fluids at an increased rate. Avoid carbonated drinks or undiluted juice**
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There is no evidence specifically addressing how quickly fluid deficits should be replaced and when to review once ORS has been started in children with moderate dehydration. Review articles and other guidelines¹³ state that ORS should be used for rehydration and be given over a period of 3–4 hours. In light of the absence of evidence a consensus recommendation by the Guideline Development Group (GDG) was developed.

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- D Children who have moderate dehydration secondary to acute gastroenteritis should be rehydrated with oral rehydration solution 10–20 mL/kg/hr given in small amounts for 4 hours**
 - D In children with moderate dehydration, oral rehydration solution should be provided in aliquots of approximately 5 mL/kg every 15 minutes, whenever this is practically possible***
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* Whenever practically possible implies that the child's carer is willing and able to carry this out under supervision. Where this is not the case, rehydrate by nasogastric tube (preferred) or intravenous injection

There is no evidence to determine whether intermittent bolus or continuous nasogastric rehydration is more effective.

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- D If a child is unable or unwilling to accept oral fluids over approximately 1 hour, or their hydration status worsens over this period, use nasogastric rehydration**
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There is evidence from randomised controlled trials^{14,15} that in moderate dehydration, nasogastric rehydration using ORS is as effective as intravenous rehydration. Children receiving ORS had significantly less vomiting and diarrhoea and improved weight gain at discharge compared to patients receiving intravenous fluids. There is limited evidence from one trial¹⁶ that this may also be true in patients with severe dehydration.

In a child with moderate dehydration, intravenous fluids are indicated only if the child is unable to tolerate nasogastric rehydration or nasogastric rehydration fails, ie. persistent vomiting or worsening dehydration. There is no evidence to determine how long to trial nasogastric fluids before moving to intravenous rehydration.

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- D If a child is unable or unwilling to accept nasogastric fluids with persistent vomiting or worsening dehydration, use intravenous rehydration**
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Pharmacological management

Antidiarrhoeals

Many parents and health professionals still perceive successful treatment as resolution of diarrhoea. Ongoing diarrhoea in an otherwise well child can cause disruption to the family, with child care problems and time off work. This, along with many other reasons, led to interest in the use of antidiarrhoeal medication in acute infectious diarrhoea. Results of trials^{17–19} are however, contradictory, and benefits where demonstrated are small and may not be clinically apparent. One study also demonstrated high levels of serious side effects. This work on antidiarrhoeal agents in children has been carried out using loperamide. In addition, the GDG agreed that no antidiarrhoeal agents should be used in children with gastroenteritis as they have not been shown to be effective in reducing diarrhoea and have potentially serious side effects.

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- A Loperamide is not recommended for the treatment of acute gastroenteritis in children**
 - D Antidiarrhoeal medication should not be used in children with acute gastroenteritis**
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Antiemetics

Most studies focusing on vomiting have looked at ondansetron. One study²⁰ comparing ondansetron, metoclopramide or placebo found that metoclopramide did not significantly reduce emesis.

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- A Metoclopramide should not be prescribed for children with diarrhoea and vomiting as it does not reduce emesis and appears to increase the duration and/or severity of diarrhoea in children**
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It should be noted that ondansetron is not licensed for use in children in Australia other than in the context of emetogenic chemotherapy and radiotherapy, or prevention of postoperative nausea and vomiting. In the absence of evidence to evaluate the effectiveness or safety of other antiemetics in children with diarrhoea and vomiting, the GDG agreed that they should not be routinely used.

A Antiemetics should not usually be prescribed for children with diarrhoea and vomiting

Probiotics

Probiotic is a live microbial food additive that may be beneficial to health. The use of probiotics in children with acute infectious diarrhoea has been explored for some years. The four studies,²¹ all of which showed benefit of probiotics in children with rotavirus gastroenteritis, used either *Lactobacillus casei* GG or a product called 'Biolactis'. Neither of these products is currently available in Australia.

A Probiotics are a useful adjunct to rehydration therapy in children with diarrhoea. However formulations of proven efficacy in these children (*Lactobacillus casei* GG or 'Biolactis') are not currently available in Australia. Other probiotics may be effective, however they cannot be recommended without further research

Diet

Historically children were starved for the period of rehydration (often over 24 hours) and were then regressed on to increasing strengths of milk feed following gastroenteritis. This was not based on any evidence, but thought to reduce the incidence of lactose intolerance. Evidence exists to support the early introduction of age appropriate diets in children who are weaned.²² In addition, early feeding (including full strength lactose containing milk) did not lead to a worsening or prolongation of diarrhoea or increased lactose intolerance.

Good evidence also exists to show that children who are breastfed should continue breastfeeding throughout the rehydration and maintenance phases of their therapy. In so doing they reduce the risk of dehydration, pass smaller volumes of stools, and recover more quickly.²³ Brown²⁴ performed a meta-analysis on the use of nonhuman milk in gastroenteritis and concluded that the majority (>80%) of young children with acute diarrhoea can be successfully managed with continued feeding of undiluted nonhuman milk.

A Breastfed infants should continue to breastfeed through the rehydration and maintenance phases of their acute gastroenteritis illness

A An age appropriate diet (including full strength lactose containing milk) should be restarted in nonbreastfed children following initial rehydration with ORS (normally given over 4 hours)

D Children who request food or report being hungry should not be denied food, even if they are receiving intravenous fluids. Give small portions of usual foods – avoiding foods high in sugar or fat

Lactose intolerance

There is very little evidence available on which to base recommendations for the diagnosis and management of lactose intolerance secondary to acute gastroenteritis. Some authors suggest that while postinfectious lactose intolerance was once common in infants <6 months of age, its incidence has substantially decreased, and it is now rare.^{25,26}

In the absence of adequate evidence, the GDG agreed that lactose intolerance should be considered in children with diarrhoea lasting 7 days or longer.

D Consider lactose intolerance in children with diarrhoea continuing longer than 7 days

It is not clear what intervention is appropriate for children with lactose intolerance after acute diarrhoea. No controlled trials were identified which examined the effectiveness of lactose free formula or diet compared to lactose containing formula or diet.

In the absence of adequate evidence, and in line with recommended practice at the Royal Children's Hospital in Melbourne, Victoria,²⁶ the GDG agreed to the following recommendation:

A In children with postinfectious lactose intolerance after acute diarrhoea:

- breastfeeding should continue unless buttock excoriation and failure to gain weight persist
 - formula feeding should be with a lactose free formula for a period of 3–4 weeks then usual formula
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Level of care

When to send a child to hospital

All children with severe dehydration and children with moderate dehydration who continue to refuse oral fluids after an hour of trying, should be sent to a hospital.

Summary of important points

- The most useful measures of dehydration are capillary refill time, skin turgor and respiratory rate.
- There is no evidence to support routine stool culture or blood biochemistry in gastroenteritis.
- Rehydration with oral rehydration solution is best for children with moderate dehydration.
- Fluids such as fruit juice, cordial and soft drinks are high in sugar and low in sodium making them less effective. Sports drinks are also unsuitable for rehydration.

- In moderate dehydration, rehydrate by giving 10–20 mL/kg/hr in small amounts for 1 hour; if tolerated continue for a further 3 hours.
- Send all children with severe dehydration and those with moderate dehydration who continue to refuse oral fluids after an hour of trying to a hospital.
- There is no role for antidiarrhoeals, antimotility agents or antiemetics in children with gastroenteritis.
- Probiotics appear to be a useful adjunct to rehydration but proven formulations are not currently available in Australia.
- After initial rehydration with ORS an age appropriate diet can be commenced.
- Children who request food or report being hungry should not be denied food.

Case study 1

Blake, aged 20 months, has been unwell for 5 days. He initially had vomiting and fever, and while these symptoms appear to have settled, he has developed diarrhoea over the past 2 days. His father reports that he is clingy, lethargic and whingy. On questioning his father reports Blake is drinking half strength formula, probably less than normal, and hasn't eaten any food. On examination Blake is afebrile. He is pale and irritable. As you examine him he starts to cry and you notice tears and moist mucus membranes with some dribble. Blake's ears are pink, throat slightly red and cervical nodes enlarged. His respiratory rate and pulse are normal and he has normal skin turgor. His chest is clear, tummy soft and you notice his disposable nappy is wet. He weighs 12 kg. You advise his father that Blake has viral gastroenteritis and that he currently does not

appear to be dehydrated. Blake's father should make sure that Blake is offered fluids frequently and that he has increased fluids while his diarrhoea is ongoing. You provide him with a brochure outlining appropriate fluids and advise that you are happy to reassess at any time.

Case study 2

Suki is 18 months of age. You are asked to squeeze her in as her mother says she looks quite unwell and is worried. She has been sick for 2 days with a high temperature, vomiting and diarrhoea. Suki's mother says Suki is drinking but appears to vomit it all up soon after. On examination her temperature is 38°C, she is pale, irritable, has delayed capillary refill (3–4 seconds) and skin pinch retracts slowly (1–2 seconds). Her respiratory rate and pulse are mildly elevated. She weighs 10 kg. You advise her mother that Suki has viral gastroenteritis and appears to be moderately dehydrated. You further advise that Suki should be rehydrated with oral rehydration solution at a rate of 50 mL every 15 minutes and you offer a 20 mL syringe to help with this. You offer to let her try rehydration in your treatment room over the next hour and say you will reassess Suki at that point. You provide her with a brochure on the management of gastroenteritis in children. An hour later Suki has tolerated all the fluids with only a small vomit. She looks a little better. You advise her mother that she can take Suki home and you will call her in 3 hours to reassess her condition.

Table 1. Clues to alternative diagnoses in children who present with diarrhoea

Clinical clue	Possible diagnosis
Gastroenteritis	
Loose stools, rare blood, rare white blood cells, respiratory symptoms	Viral gastroenteritis
Loose/watery stools, variable blood, polymorphonuclear cells common, crampy abdominal pain, seizure (shigella)	Bacterial gastroenteritis /food poisoning
Multisystem involvement, weight loss	Parasitic gastroenteritis
Other – acute diarrhoea	
Dysuria, frequency, burning on urination	Urinary tract infection
Loose stools, abdominal pain shifting to right lower quadrant, high fever if perforated	Acute appendicitis or peritonitis
Abdominal distension, bloody stool with mucus,	Intussusception
Anorexia, loose stools, taking antibiotics	Antibiotic toxicity
Other – chronic diarrhoea	
Anaemia, watery stools with blood	Milk allergy/intolerance
Poor growth, anaemia, profuse, bulk, pale, frothy stools	Gluten sensitivity (coeliac disease)
Urgency, tenesmus, weight loss	Ulcerative colitis
Weight loss, perianal disease	Regional enteritis (Crohn disease)
Respiratory infections, poor growth, fatty, bulky, foul smelling stools	Cystic fibrosis
Abdominal distension, lethargy, poor growth, green, watery, foul smelling stools	Hirschsprung disease

Table 2. Algorithm for the management of child with diarrhoea with or without vomiting in general practice

Initial assessment		
This guideline should not be followed when: <ul style="list-style-type: none">the child is unconscious or <3 months of agethe cause of diarrhoea is something other than gastroenteritis such as:<ul style="list-style-type: none">acute causes, eg. urinary tract infection, acute appendicitis, peritonitis, intussusception, antibiotic toxicitychronic causes, eg. milk allergy/intolerance, gluten sensitivity, ulcerative colitis, regional enteritis, cystic fibrosis, Hirschsprung disease		
Assessment of severity of dehydration		
None or minimal	Moderate	Severe
<ul style="list-style-type: none">Normal capillary refill timeSkin pinch retracts immediatelyNormal respiratory patternNormal conscious stateNormal drinkingNormal urine output	<ul style="list-style-type: none">Delayed capillary refill (3–4 seconds)Skin pinch retracts slowly (1–2 seconds)Increased respiratory rateRestless, irritableDrinks eagerly, increased thirstTachycardia	<ul style="list-style-type: none">Very delayed capillary refill (>4 seconds), mottled skinSkin pinch retracts very slowly (>2 seconds)Deep, acidotic breathingLethargic, unconsciousUnable to drinkDeeply sunken eyesHypotension
<ul style="list-style-type: none">These signs correspond to <5% lost body weight	<ul style="list-style-type: none">These signs correspond to 5–10% lost body weight	<ul style="list-style-type: none">These signs correspond to >10% lost body weight
Note: If the patient has signs or symptoms across categories, always treat according to the most severe features		
• Take special care if the child: <ul style="list-style-type: none">is less than 6 months of agehas had more than 8 significant diarrhoeal stools or more than four significant vomits in the past 24 hourshas comorbid conditions such as short gut, developmental delay or metabolic illnesses		
Initial treatment		
	<ul style="list-style-type: none">If child not tolerating oral fluids, send to hospital	<ul style="list-style-type: none">Send to hospital
	<ul style="list-style-type: none">If child tolerating oral fluids	
<ul style="list-style-type: none">Increase frequency and volume of usual drinks while child has diarrhoeaThis can occur in the surgery if facilities are available for monitoring, or at the patient’s home if the GP considers circumstances suitable	<ul style="list-style-type: none">Rehydrate with oral rehydration solution (ORS)*This can occur in the surgery if facilities are available for monitoring, or at the patient’s home if the GP considers circumstances suitable	
<ul style="list-style-type: none">Best practice is to weigh the child and document fluid intake and outputGive appropriate fluids such as: breast milk, ORS, unsweetened fruit juice diluted 1:4, or cordial diluted 1:10<ul style="list-style-type: none">use cup, bottle, spoon, dropper, syringe or icypole as child prefersavoid soft drinks, sports drinks and undiluted fruit juice or cordialallow normal foods if the child is hungryGive parent written informationReassess in person or by phone as required	<ul style="list-style-type: none">Best practice is to weigh the child and document fluid intake and outputGive 10–20 mL/kg ORS over 1 hour<ul style="list-style-type: none">give frequent small amounts, eg. 5.0 mL/kg every 15 minutes whenever practicaluse cup, bottle, spoon, dropper, syringe or icypole as child prefersGive parent written informationReassess after 1 hour. If the child is tolerating oral fluids then rehydration should continue for a further 3 hours with hourly reassessment	
Response to treatment		
Responding	Not responding, send to hospital	
Children who are tolerating oral fluids may be sent home if the parent/carer can provide adequate supervision, is able to continue to provide frequent small volume drinks, and understands when to return to medical care	<ul style="list-style-type: none">Reconsider diagnosisContinue to rehydrateConsult with a paediatrician or emergency physician	
* ORS (eg. Repalyte, Gastrolyte, Pedialyte, Hydralyte)		

Case study 3

Polly, aged 12 months, attends with both parents, who are looking very anxious. Polly has been unwell with 'rotavirus', which has been 'going through' the children at crèche. She became unwell 3 days ago with fever and vomiting, and has today developed diarrhoea. More worrying, is that she has not drunk anything since last night and her nappy was dry this morning. She is lethargic, appears very unwell and refuses to drink. Skin pinch retracts slowly (2 seconds), she is tachycardic and has a slightly increased respiratory rate. You advise Polly's parents that she is dehydrated and requires admission to hospital for further management.

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Resource. Parent information

Medical & nursing care for your child

Medical & nursing care for children with diarrhoea focuses on making sure your child drinks enough

- Your child will be checked for dehydration
- Drinks will be offered to your child. Drinks are the best treatment for dehydration
- Most children will get better if they drink enough
- If your child refuses to drink and continues to vomit, then a nasogastric tube may be inserted through their nose to their stomach. The tube helps get fluid into their stomach.
- If your child continues to vomit with the nasogastric tube, an IV drip may be used
- Your child will be regularly reviewed and sent home when their dehydration has improved, even if they still have diarrhoea or vomiting
- Only a very small number of children who go to hospital are admitted to the ward

Did you know?

If you don't already have a GP you can find a child friendly GP on the web: www.healthforkids.net.au

Important points to remember:

- Diarrhoea and vomiting can mostly be managed at home
- Give lots of drinks to make sure your child doesn't become dehydrated.
- Wash your hands after touching your child (especially toileting or changing nappies) and before touching any food. This stops the infection spreading.
- Do not allow other members of the family to share cups, plates, cutlery etc.
- Try to keep your child away from other children until the diarrhoea has stopped.
- Don't send your child to care, kindergarten, or school until the diarrhoea has stopped.

These websites have more information on diarrhoea and other illnesses:

<http://www.betterhealth.vic.gov.au/>

www.rch.org.au/kidsinfo/

Southern Health

Disclaimer:

This health information is for general education purposes only. It should not be used in place of medical advice. Please consult with your doctor and/or other health care professionals to ensure individualised and appropriate health care is tailored for your child.

Information for Parents of Children with Diarrhoea with or without Vomiting



Diarrhoea and vomiting

Diarrhoea and vomiting are very common in children and are usually caused by an infection.

- Diarrhoea is a runny, watery bowel action, and usually lasts 2-3 days but can last up to 10 days
- Vomiting usually settles quickly, lasting a day or two.

Your child may also have:

- Tummy pain
- A high temperature
- Nausea

Dehydration

The main worry for children with diarrhoea and vomiting is that they might become dehydrated.

Dehydration happens when children lose more water, sugar and salts through diarrhoea and vomiting than they take in from food and drinks.

Did you know?

Babies under 6 months of age have a higher risk of dehydration

Signs that your child might be dehydrated:

- More sleepy than usual
- Dry lips, tongue, or mouth
- Cold hands and feet
- Sunken eyes
- Not passing urine (Dry nappies)
- Pale

What should I do at home?

Diarrhoea and vomiting can mostly be managed at home - the most important thing is to **give lots of drinks to make sure your child doesn't become dehydrated.**

- Continue breastfeeding. Give smaller feeds more frequently
- If bottle feeding continue normal strength formula.
- Give regular drinks: see table for amounts → (a small amount every 10 – 15 minutes)
- Continue to give drinks even if diarrhoea or vomiting continues or gets worse
- Do not give any drugs to stop the diarrhoea and vomiting, as these can be harmful.
- Offer normal foods, but don't worry if your child doesn't feel like eating.

Did you know?

Any normal foods are fine – you won't "feed the bug"

These drinks are good:

- Cordial (not low calorie)
½ cup cordial to 5 cups water
- Fruit juice (not sweetened)
1 cup juice to 4 cups water
- Solutions that have been designed to treat dehydration. These are called 'oral rehydration solutions', some brands are:
 - Repalyte, O.R.S., Gastrolyte, Hydralyte, and Pedialyte.
 - Hydralyte icy-poles are also good; they are available from the chemist or supermarket.

Did you know?

You don't have to use half-strength formula for bottle-fed children. Full strength is fine.

How much drink should I give my child?

Child's weight:	Over 15 minutes?	Over 1 hour?
< 10 kg	2 tablespoons	½ - 1 cup
10-20 kg	¼ - ½ cup	1 - 2 cups
20-30 kg	½ - ¾ cup	2 - 2 ½ cups
30-40 kg	¾ - 1 cup	2 ½ - 3 cups
40-50 kg	About 1 cup	3-4 cups

If your child wants to drink more than this, that's OK. Give small quantities each time. Large drinks might make your child vomit more.

When should I take my child to a doctor?

Take your child to a GP:

- If you are concerned
- If your child:
 - Refuses to drink and continues to have diarrhoea or vomiting
 - Continues to drink, but vomits often and seems unable to keep any fluids down.
 - Has not been to the toilet or has not had a wet nappy for 12 hours
 - Is dehydrated
 - Has a bad stomach ache
 - Has mucous or blood in the diarrhoea
 - Is lethargic, restless or irritable

Take your child to the Emergency Department if your child has these symptoms and:

- An appointment with a GP is not available in the next few hours and you are concerned

If your GP is concerned that your child is severely dehydrated they may send you to the Emergency Department.