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Gastroenteritis of Infancy, and Managing Fluids in Childhood

! 6% of all admissions for the under-15s! Therefore, one day you're likely to have to deal with this.
Rotavirus gastro usually presents in autumn or winter, usually in the under-5s.

PRESENTATION:

VOMITING
DIARRHOEA
FEVER
NAUSEA: Reduced Oral Intake
DEHYDRATION: Reduced Wet Nappy Production; conversely, numerous "damp" nappies

ROTAVIRUS: 80% of gastro
Campylobacter Jejuni, Salmonella, Shigella Yersinia, Escherichia etc. are. another 15%...

Ask: what is the baby eating?

If the bub is breastfed, he's got plenty of protective maternal IgA and so he may be vomiting for some other reason; possibly a **SINISTER** reason. Some sort of atresia or stenosis, perhaps?...

History of contact with another gastro-stricken person

WHAT YOU WANT:
- **low grade fever**
- **watery diarrhoea sans blood or mucus**
- **non-bilious vomiting**
- **not much abdo discomfort**

That would sound like viral gastro;
Nothing threatening

WHAT YOU DON'T WANT:
- **high fever**
- **mucusy or bloody stool**
- **great deal of discomfort**
- **septic-looking infant**

That makes the case for a bacterial infection ;
…And its not necessarily focused in the gut….
SEPTIC WORK-UP for these kids may turn up a UTI or a lower lobe pneumonia, transmitting inflammation through the diaphragm and causing ileus

CONSIDER SURGICAL CAUSES OF
VOMITING AND ABDO PAIN

Rarely followed indications for presenting your kid to hospital:

- **Anyone under 6 months**
- **Any child who is difficult to wake**
- **Any of these disturbing symptoms**

Most commonly, parents either wait too long, or panic too early.
This means treating either a lethargic "sick child" or a well-hydrated happy bub with a low fever and an occasional spew.

FIRST: assess dehydration; management depends on this

Best if you have a recent weight for the child; you can measure the current weight and assume that what weight is lost is due to fluid depletion. In absence of reliable weight, you have to actually examine the child.

MILD up to 5%
- **Restless**
- **Irritable**
- **Thirsty**

MODERATE Up to 5-10%
- **Reduced nappy output (you want at least 4 wet nappies per day!)**
- **Dry mucous membranes**
- **Visible skin folds (skin turgor >2seconds)**
- **Sunken eyes**
- **Sunken fontanelle**

SHOCKED >10%
- **Drinking poorly**
- **Lethargic, sleepy**
- **Slow skin turgor**
- **Tachycardia**
- **HYPOTENSION**

CAPILLARY REFILL =
SINGLE MOST RELIABLE SIGN

MANAGEMENT: its all about the fluids.
MILD dehydration: send them home with gastrolyte
MODERATE dehydration: keep them in hospital, on oral or nasogastric rehydration
If too sick to drink, give IV fluids as below.
SEVERE dehydration: Give IV bolus fluids, admit, review electrolytes (obsess over sodium)

BOLUS FLUIDS:

- 20ml / kg; only NORMAL SALINE or HARTMANNS over 10-20minutes
- repeat up to 40ml/litre
- so, a 10kg toddler should get no more than two 200ml boluses

REHYDRATION:

(Weight) x (%dehydration) x 10 → over 24 hours;

! UP TO 5% DEHYDRATION! Otherwise, give a bolus.

Use HALF SALINE with 2.5% glucose

Clinical signs will not be present until the child is 5% dehydrated.

ADD CONTINUING LOSSES (estimate and add to maintenance)

Only add potassium if you got urine output!

POTASSIUM: 3mmol / kg /day

GLUCOSE: Make up to 8% glucose if younger than 6 months

MAINTENANCE: in ml/kg/day	
1st day	60
2nd day	90
3rd day	120
up to 9mth	120
9-24 mth	90
24mth-4yrs	70
4-8yrs	60
older child	50

THEN WHAT?

- No medications! Antimotility agents, antibiotics and anti-emetics are CONTRAINDICATED.
- commence normal feeding after rehydration is into its 4th - 5th hour.
- May still be lactose-intolerant (as the virus has destroyed their brush border)
- REMEMBER: the only way this child could die is throughYOUR fluid management.
- THEREFORE the LESS you do, THE BETTER THEY GET.