Infectious gastroenteritis (GE)

A common cause of contact with health care

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Causes of infectious GE

Definition: > 3 loose stools/d

Virus
Bacteria
Amoeba
Toxines (food poisoning)
(malaria)

Routes of infection

Faecal - oral

Contaminated water or food

Faeces containing virus, bacteria, cysts/eggs into mouth

Direct, poor hand hygeine, handling foods, contaminated water

Sanitary/ hand hygiene!

Acute bloody diarrhea (dysentery)

Bacteria:

Shigella: range mild-severe. Sever with rapid onset, fever, tenesmus, passage of frequent (up to 100/d or every - 15 min) bloody mucoid stool. Small amount of bacteria takes to infect! Family histiory.

EHEC (enterohemorragic E-coli)

Campylobacter enterocolitis

Salmonella enterocolitis non-typhi salmonellae (not s typhi/paratyphi wich usually do not present with diarrhea)

Yersinia enterocolitis

Clostridium difficile: antibiotic-associated colitis/hospital aquired diarrhea

DIAGNOSIS: culture (clinical)

Acute bloody diarrhea (dysentery)

Amoebic dysentery/Entamoeba dysenterica:

~48 milj people infected, only ~10% symtomatic.

Severe inf in pregnant women, small children, malnourished. Spt range mild - severe w abd discomfort, diarrhea becomming increasingly bloody and mucoid as severity increases. ALA.

DIAGNOSIS: microscopy (OBS E dispar)

Management of dysentery

Mild disease: ORS, zinc. If no improvement in a few (3) days empirical ab such as ciprofloxacin/co-trimoxazole, (flagyl).

Moderate disease: ORS, empirical ab.

Severe disease: IV fluids, empirical ab (ceftriaxon + flagyl).

Why not always treat with antibiotic?

Self limiting! Cl diff, prolonged carriership, increased risk of MRB

Acute diarrhea without blood

Viruses: Rota, astro, adeno, noro (calici), sapo. Faecal-oral+/- airborne; nosocommial transmission common. Vomiting and diarrhea. Diagnos: clinical, PCR/immunoassays/electron microscopy.

Bacteria: all the bacteria that can give dysentery. ETEC, EPEC, EAEC, enterotoxin-producing s aureus, Clostridia, Cholera. Cholera: rice watery up to 30L/d. Epidemic requires special managing. Diagnosis: culture/PCR

Protozoa: Giardiasis, others. Very common. Spt: Asymtomatic-watery steatorreic, abd discomfort, bloating, burping. Chronic inf: weight loss, malabsorption. Transmission: cysts in water, person-person. Survives chlorine! Diagnos: microscopy 3 samples. (Culture/PCR,serology). Clinical presentation - diagnose! Treatment: metronidazole, tinidazole, (obs pregnant)

Food-toxins: Food poisoning

Food poisoning

GI-spt (D, V, AP, fever) occurring within a few hours of ingesting food containing a toxin. Microbal infections usually have a longer inc period.

Bacteria producing toxins: s aureus, bacillus cereus, read bean toxin, mushroom toxine, salmonella-shigella-campylobacter- yersinia, E coli, Listeria, clostridium perfiringens.

Prevention of food poisoning from bacteria or their toxins/ 5 rules for safe food:

1) Keep food clean
2) Cook thoroughly
3) Separate raw and cooked food
4) Keep food at safe temperatures
5) Use safe water and raw materials

Genaral management of dehydration in children

Assessment of dehydration:

1) **Look at**

Condition:	Well,alert	Restless, irritable	Lethargic or uncouncious
Eyes:	Normal	Sunken	Sunken
Thirst:	None	Drinks eagerly, very thirsty	Drinks poorly, unable to drink

Also look at: fontanell, mucousal membranes, crying without tears, conc/of urine, tachycardia

Genaral management of dehydration in children cont.

Assessment of dehydration:

2) Pinch the skin to assess skin turgor

Goes back immediatly Goes back slowly Goes back very slowly

Genaral management of dehydration in children cont.

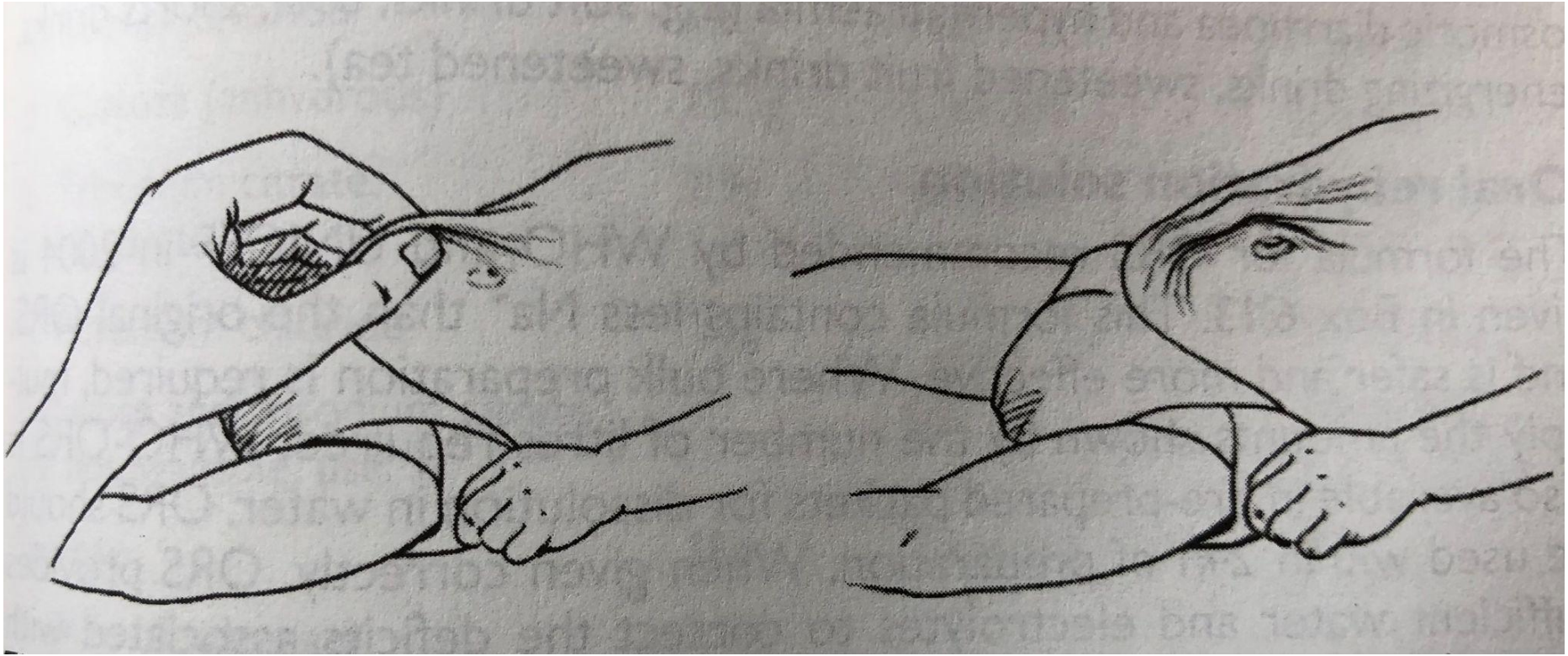
Assessment of dehydration:

3) Decide

No dehydration Some dehydration Severe dehydration

4) Treat

Plan A Plan B Plan C



Skin pinch to assess skin turgor. Pinch skin midway between umbilicus and flank, then release to observe how quickly it goes back. ≥2 sec severe dehydration.

Fluid therapy in children - general knowledge

Everybody has a basal need of fluids

Losses: sweat, breathing, urine, faeces (tears)

Intake: fluids and food

Do not give soda och very sweet drinks in GE

Malnutried children need special treatment

Basal fluid requirements

One should use a table to appreciate the childs needs of fluids

The child should be weighed without clothing to estimate fluid requirements. If weighing is not possible use the childs age to estimate weight.

Breastfeed infants: continue to breastfeed as often/longer as infant wants, even during ORS.

Non-breastfed infants: <6mths during ORS also give 100-200mL water by mouth after completing rehydration, resume full-strength milk or formula feeds. Give water and other fluids normally taken by infant.

Older children and adults: ORS + also offer as much plain water, milk or other fluids that do not contain large amounts of sugar is accepted.

Treatment plan A:treat diarrohea without signs of dehydration at home

Give extra fluid (as much as the child will take)

- Breastfeed frequently and for longer at each feed.
- If not exclusively breastfed, give one or more of the following: ORS solution/ food-based fluids (such as soup, rice water, youghurt drinks) / clean water.

ORS is given in addition to usual fluid intake!

Info:

1 teaspoon every 1-2 minfor child <2yrs

Give frequent small sips from a cup to older children

Wait for 10 minutes if child vomits, then continue, but more slowly

Continue giving extra fluids until the diarrhoea stops.

Treatment plan A: treat diarrhea without signs of dehydration at home

Amount of ORS to give according to the child's age

Age	After each loos stool	At home
<2yrs	50-100mL	500 mL/day
2-10 yrs	100-200mL	1L/day
>10 yrs	As much as tolerated	2Lday

Zinc: < 6mths→1/2 20 mg/d for 14 days.

> 6 mths→1 20 mg/d for 14 days.

Info: when to come back!

Treatment plan B: treat some dehydration with ORS

Give ORS in clinic over 4 hours →reassess!

Amount of ORS to give during the first 4h

Age	**4mths**	**4-11mths**	**12-23mths**	**2-4yrs**	**5-14yrs**	**>14yrs**
Weight	<5kg	5-7.9kg	8-10.9kg	11-15.9kg	16-29.9kg	>30kg
Volume	200-400mL	400-600mL	600-800mL	800-1200mL	1.2-2-2L	2.2-4.0L

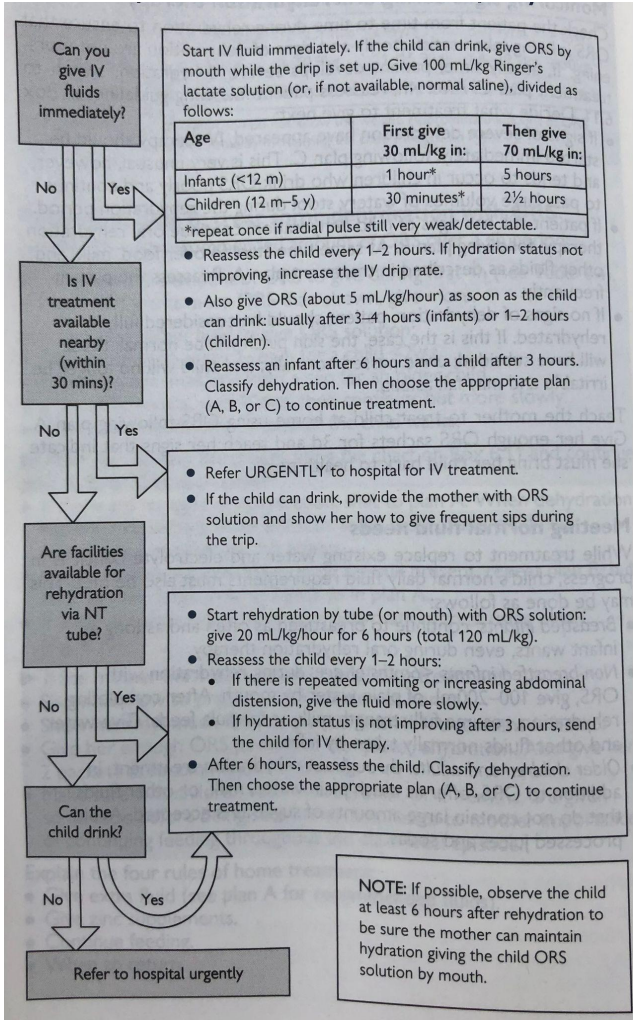
Use the child's age only when you do not know the weight. Approx amount ORS required (in mL) can be calculated by multiplying the child's weight (in kg)x75

Treatment plan B: treat some dehydration with ORS

Give in same way as plan A.

After 4 h reassess according to the earlier table. Decide whether to change to plan A, continue with plan B or change to plan C.

Also signs to assess: urine production. When child gets better they can go from being irritated to falling asleep.



Treatment plan C: treat severe dehydration quickly

Treatment plan C: treat severe dehydration quickly

Reassess every 15-20 min until strong radial pulse, thereafter hourly to confirm improvement. Change to plan B if appropriate

Signs of fluid overload: puffy eyelids, tachypnoea, wet lung sounds. OBS malnourished children.

Observe patient for at least > 6h before discharging.

When counting on rehydration theraphy we suggest that one provides with an quick-chart to avoid counting in a stressful situation.

Solutions for IV rehydration: 1) RL if not available 2) Saline 9%. Do not give plain glucose for rehydration because this does leak out of the vessels.