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PURINA® PRO PLAN® Vet Nurse Symposium 2024

Empowering the Vet Nurse Journey

Myths & Facts of Acute Gastrointestinal Disease

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The speaker has the following disclosures related to their presentation:

- Current/past employment: Academic post at the Royal Veterinary College
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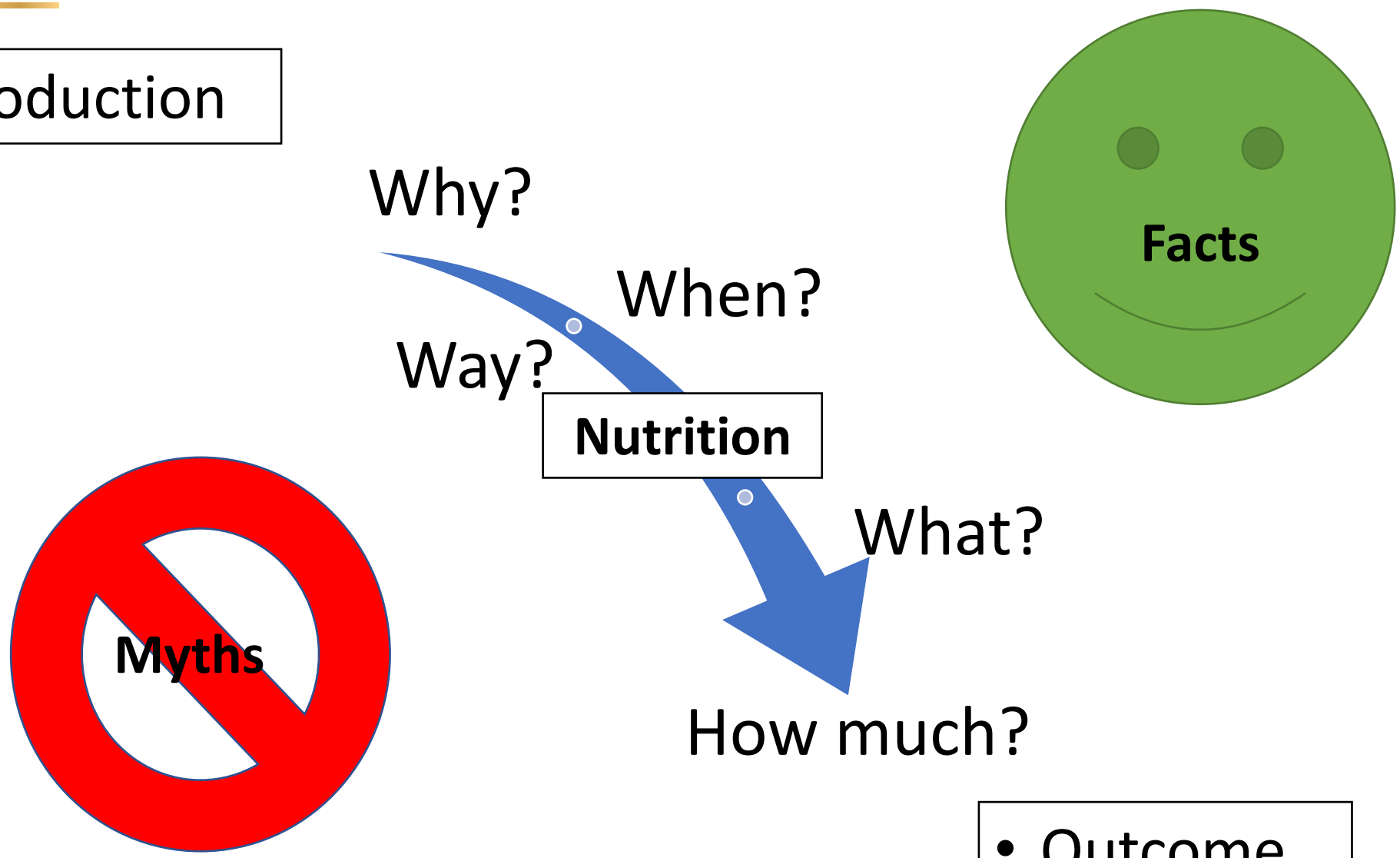
Agenda

- Introduction



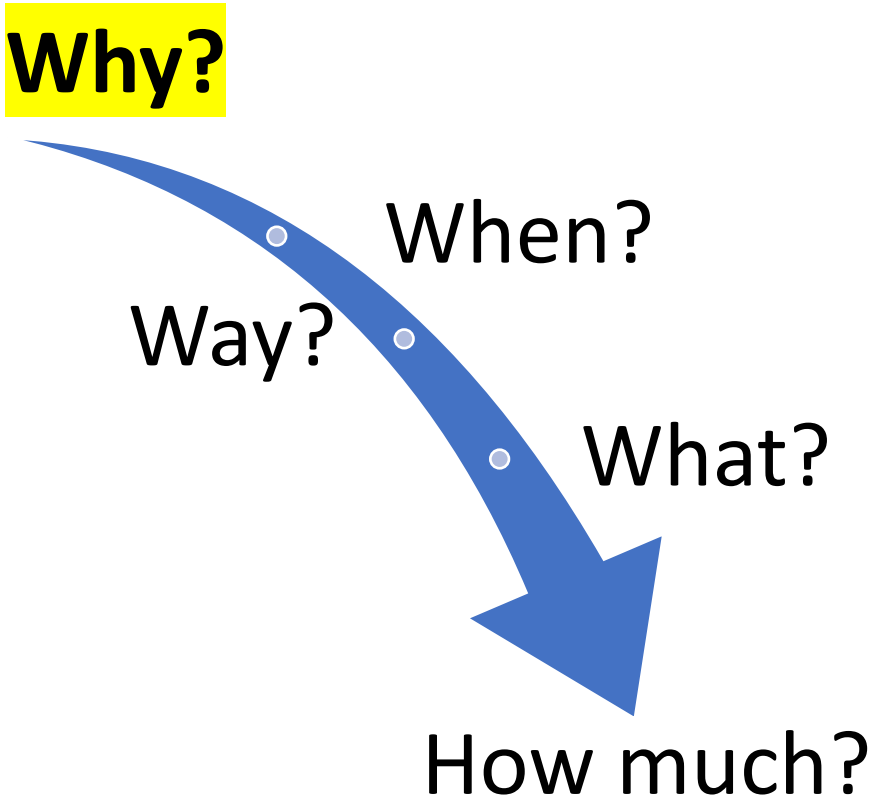
- Outcome

Introduction - Acute Gastroenteritis

- Common presentation
- Many differential diagnoses
- Dietary history critical
  - Dietary indiscretion
  - Table foods
  - Hunting
  - Raw food

Introduction - Acute Gastroenteritis

- Husbandry history:
  - Vaccination record
  - Anthelmintics
- Other animals in household & in-contact people
- Assess patient:
  - Self-limiting Vs. life-threatening
  - Symptomatic Tx
  - Dietary Mx



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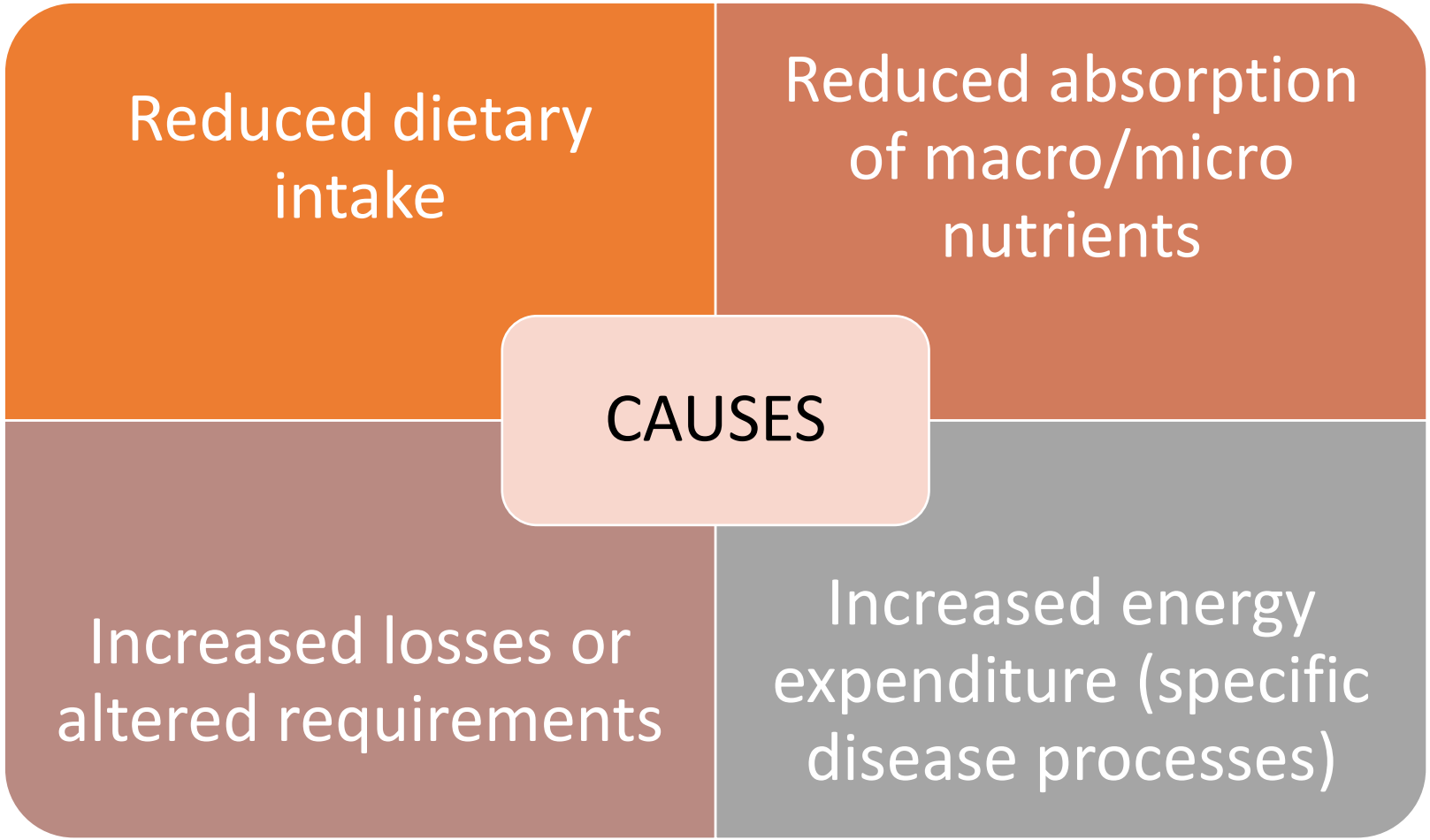
Why to feed?- Acute Gastroenteritis

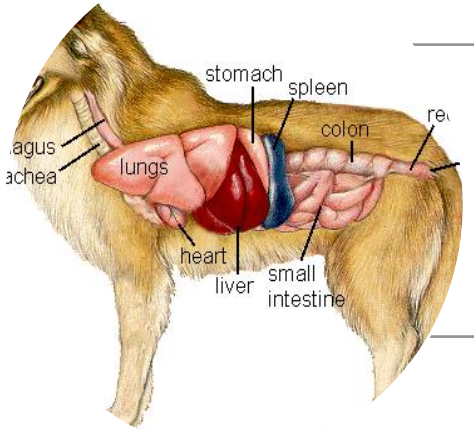
- Nutrition is vital – veterinary studies:
  - Brunetto et al. Effects of nutritional support on hospital outcome in dogs and cats. *J Vet Emerg Crit Care*. 2010
    - **Energy intake was positively associated with hospital discharge (P<0.001) – voluntarily or assisted feeding (EN & PN)**
  - Molina et al. Evaluation of the Prevalence and Risk Factors for Undernutrition in Hospitalized Dogs. *Front Vet Sci.* 2018
    - **Association was found between inadequate energy intake and death**

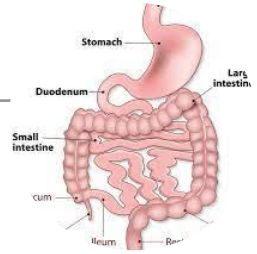
Malnutrition

- Definition – deficiency, excess or imbalance
- Often used synonymously with undernutrition
- Common problem, e.g. canine PLE[1]:
  - unintentional weight loss - 46/57 (81%) of dogs
  - appetite decreased - 31/57 (54%)
  - low BCS (<ideal of 4-5/9) - 37/57 (65%)
  - temporal muscle loss - 38/57 (67%) & epaxial muscle loss - 39/57 (68%)
  - coat condition was abnormal in 32/57 (56%)

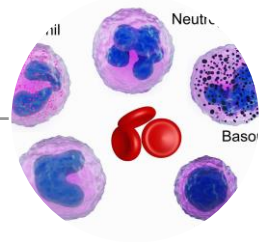
- [1]Wootton FE et al, JVIM 2023


Reduced dietary intake
Reduced absorption of macro/micro nutrients
CAUSES
Increased losses or altered requirements
Increased energy expenditure (specific disease processes)



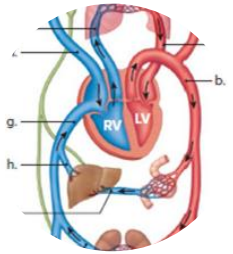


GI tract



Immune system & wound healing

Affects function & recovery of EVERY organ system



Cardiorespiratory

FACTS!!

- ✓ Nutrition VITAL during hospitalization
- ✓ Malnutrition can be prevalent & does have ill effects

MYTHS!!

- ❖ Nutrition doesn't impact patient outcome

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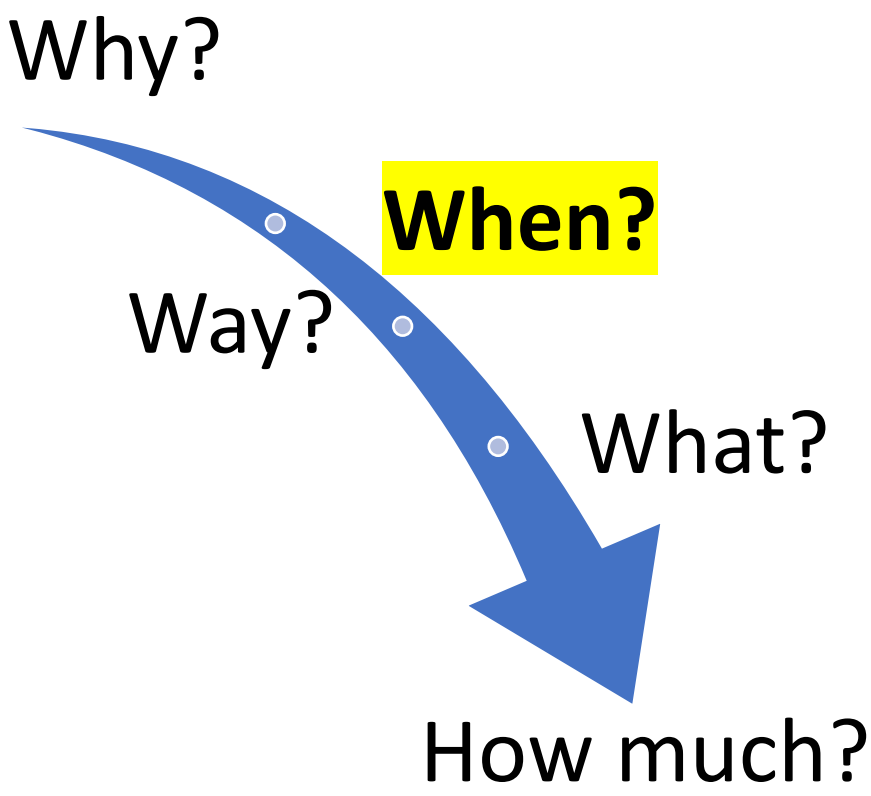
Why?
When?
Way?
What?
How much?

When to feed?-Acute Gastroenteritis

- Treatment:
  - First objective – correct dehydration and electrolyte, glucose and acid-base imbalances if present
  - Medical treatment:
    - Gastroprotectants, antiemetics, analgesia, prokinetics, antibiotics, anthelmintics etc.
  - Dietary goals:
    - Provide a food that meets the patient's nutrient requirements
    - Allows normalization of intestinal motility and function
- Patient should be fed as soon as stable to ensure enterocyte health

FACTS!!

✓ Nutrition should be started as soon as the patient is stable

MYTHS!!

❖ Nil per os is preferable to rest the gut

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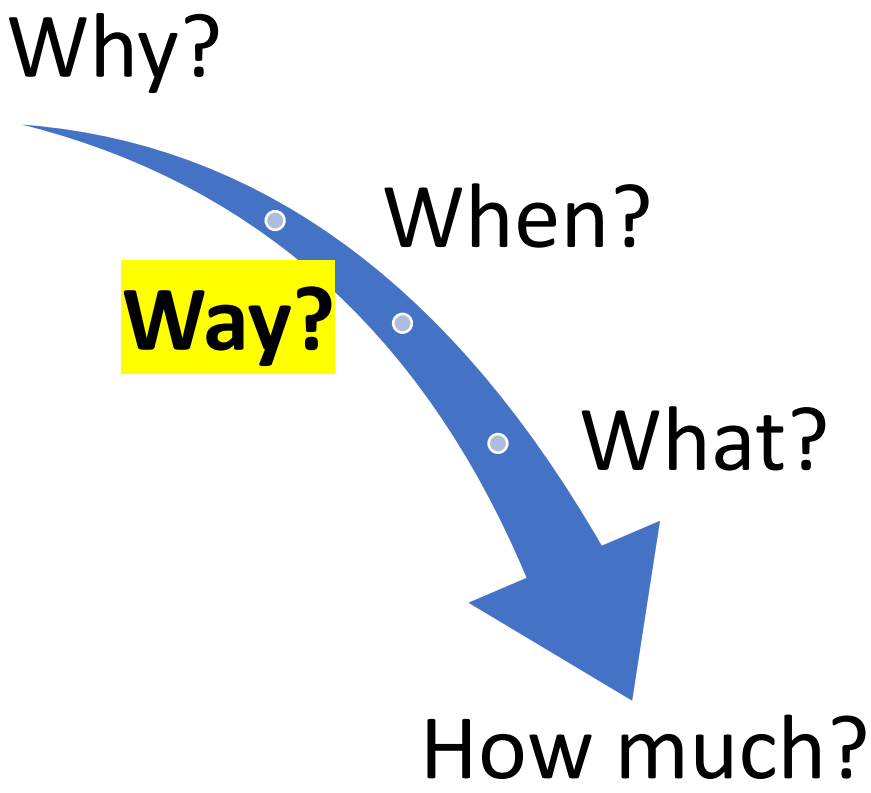

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Way to feed? Oral intake

Environment

- cats!
- bowls
- owner visits

Food

- warming
- flavor, texture
- novel protein
- unbalanced foods

Appetite

- stimulants
- palatant enhancers
- anti-nausea meds
- analgesia

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Way to feed? Enteral feeding tube

Nasoenteral

Esophagostomy

PEG

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FACTS!!

✓ Oral or enteral nutrition should be prioritised over parenteral

MYTHS!!

❖ Gut needs to be rested so it can heal

❖ Oral syringe feeding should be performed in hyporexic/anorexic patients

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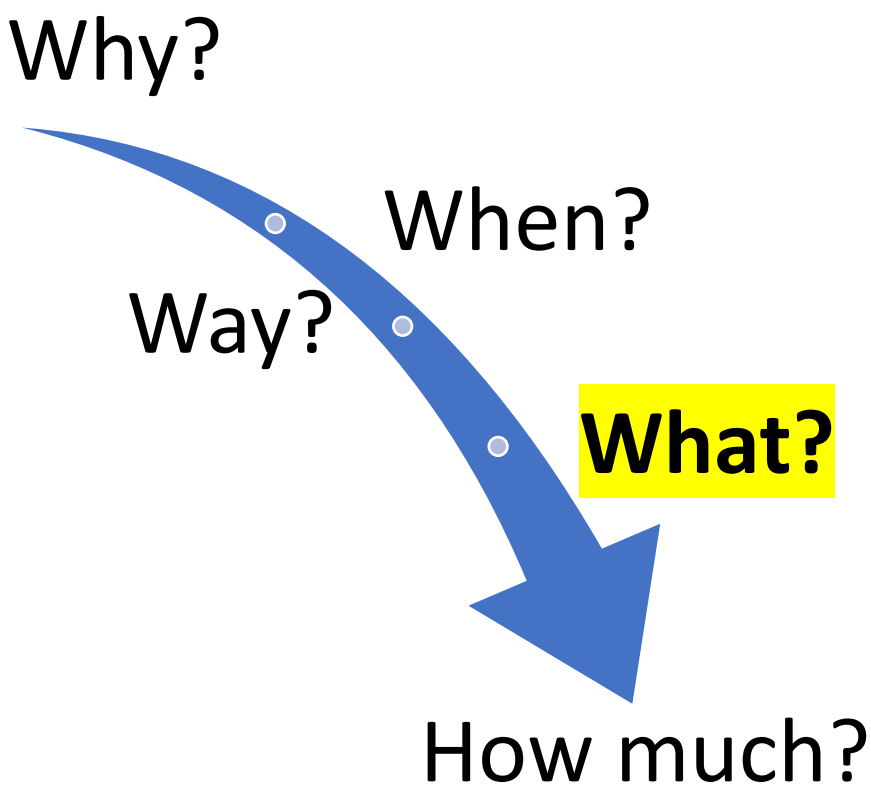

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What to feed?-Acute Gastroenteritis

- Ideal dietary characteristics:
  - Low fat
  - Dietary fibre
  - Highly digestible

What to feed? -Acute Gastroenteritis

- Low Fat
  - Fat digestion and absorption may be disrupted in patients with GI disease
  - Ingestion of a fatty meal will decrease GE tone, slow gastric emptying and is a potent stimulus for pancreatic secretion
  - Fat is a concentrated source of calories – lower volume to feed and is more palatable
  - Consider reducing in cases with steatorrhea, ileus, regurgitation, vomiting, nausea or abdominal pain

What to feed? -Acute Gastroenteritis

- Dietary Fibre
  - Modify gastric emptying
  - Normalize intestinal motility
  - Buffer toxins in GIT
  - Bind or hold excess water
  - Support growth of beneficial microbiota
  - Buffer gastric acid
  - Adds indigestible bulk
  - Decreases DM digestibility of food

What to feed?-Acute Gastroenteritis

- Highly digestible
  - Digestibility > 80-85%
  - Less work on GIT
  - Less bulk in GIT
  - Veterinary therapeutic diets formulated for GI disease usually contain ingredients that have been highly refined to increase digestibility

What to feed? -Acute Gastroenteritis

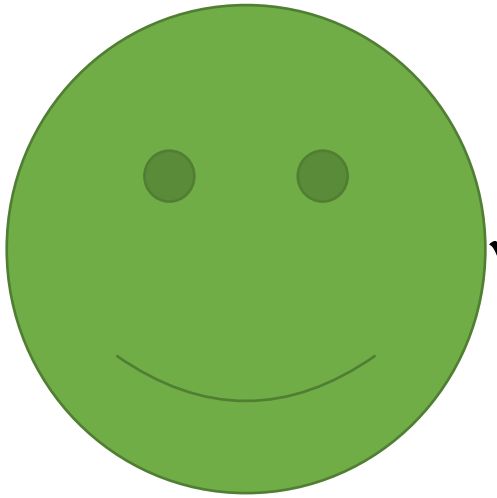
- Feeding plan
  - 1. Feed commercial therapeutic highly digestible, low-residue food with low-fat
  - 2. Feed commercial therapeutic highly digestible, low-residue food with moderate fat
  - 3. If little improvement consider higher fibre veterinary therapeutic diet
  - 4. Make sure if animal on this longer-term (>5 days) and is growing, suitable diet is selected

What to feed? -Acute Gastroenteritis

- Short-term (in-hospital) dietary options:
  - 1. Home-prepared
  - Low fat cottage cheese & cooked white rice
  - Boiled boneless/skinless chicken breast & cooked white rice
  - Canned tuna (caution only tuna) & cooked white rice
  - 2. NE tube feedings via continuous feeding (e.g. parvoviral enteritis)

What to feed? -Acute Gastroenteritis

- Short-term (in-hospital) dietary options::
  - Benefits of **white rice** for diarrhoea:
    - highly digestible
    - relatively energy dense
    - glucose from rice starch is slowly released & quickly absorbed
    - increase water & electrolyte absorption
    - pectin absorbs water - helps stool quality
    - compounds in cooked white rice ("rice factor" is sometimes used to describe this) inhibit chloride secretory channels in the intestine which can help with secretory diarrhea.
    - extensively studied for pediatric acute diarrhea



FACTS!!

- ✓ Trial & error approach may be needed to find optimal diet for the individual

MYTHS!!

- ❖ Only chicken should be fed as this is bland

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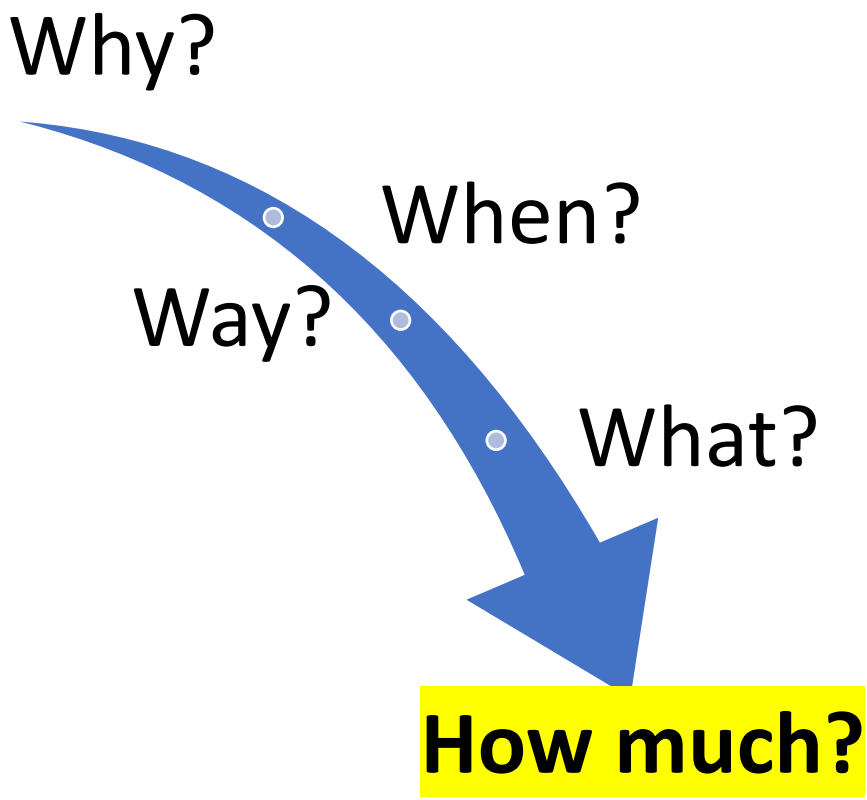
Why?
When?
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How much?

How much to feed? Acute Gastroenteritis

- Small bowel atrophy begins within days of absence of luminal stimulation
- Food in the lumen stimulates integrity and function
- “Minimal luminal nutrition” – 25% RER
- Resting energy requirement (RER; $70*[BW(Kg)^{0.75}]$) – current body weight!
- MONITOR before increasing to 100% RER over 4(-7) days

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FACTS!!

- ✓ Use current body weight for RER
- ✓ Start at 25% RER
- ✓ Aim to reach 100% by day 4 (-7)

MYTHS!!

- ❖ Feeding should start at 100% RER
- ❖ Ideal body weight should be used for RER calculation

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Outcome- Acute Gastroenteritis

- Prognosis:
  - Majority do well
  - Some may continue to have chronic bouts of GI signs – further diagnostic investigations & dietary management as indicated

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Thank you!

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