

The science behind eating after gastrectomy

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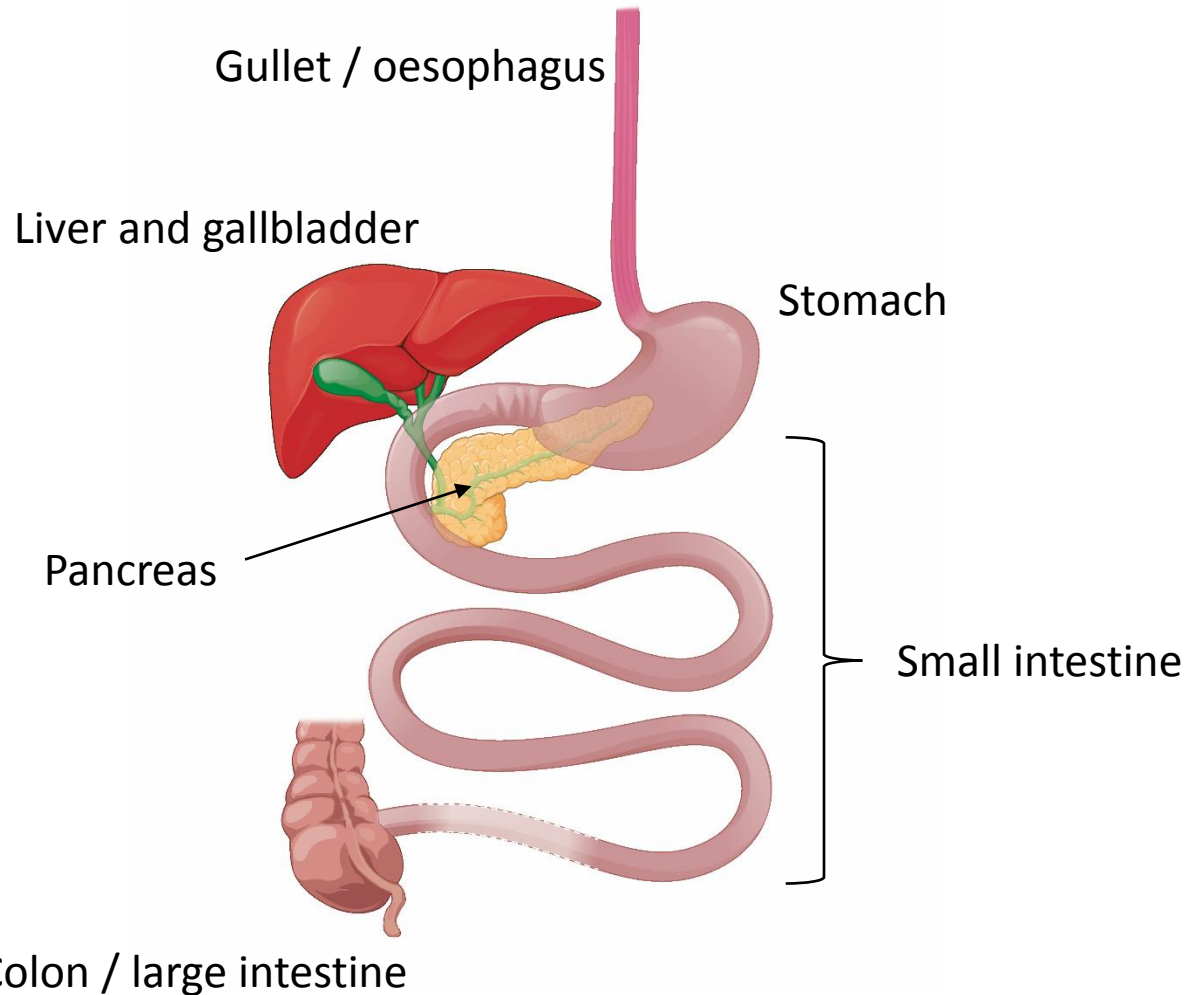
Goals

1. To empower you to understand your body better
2. Feedback from research studies
3. Thanks

One basic concept

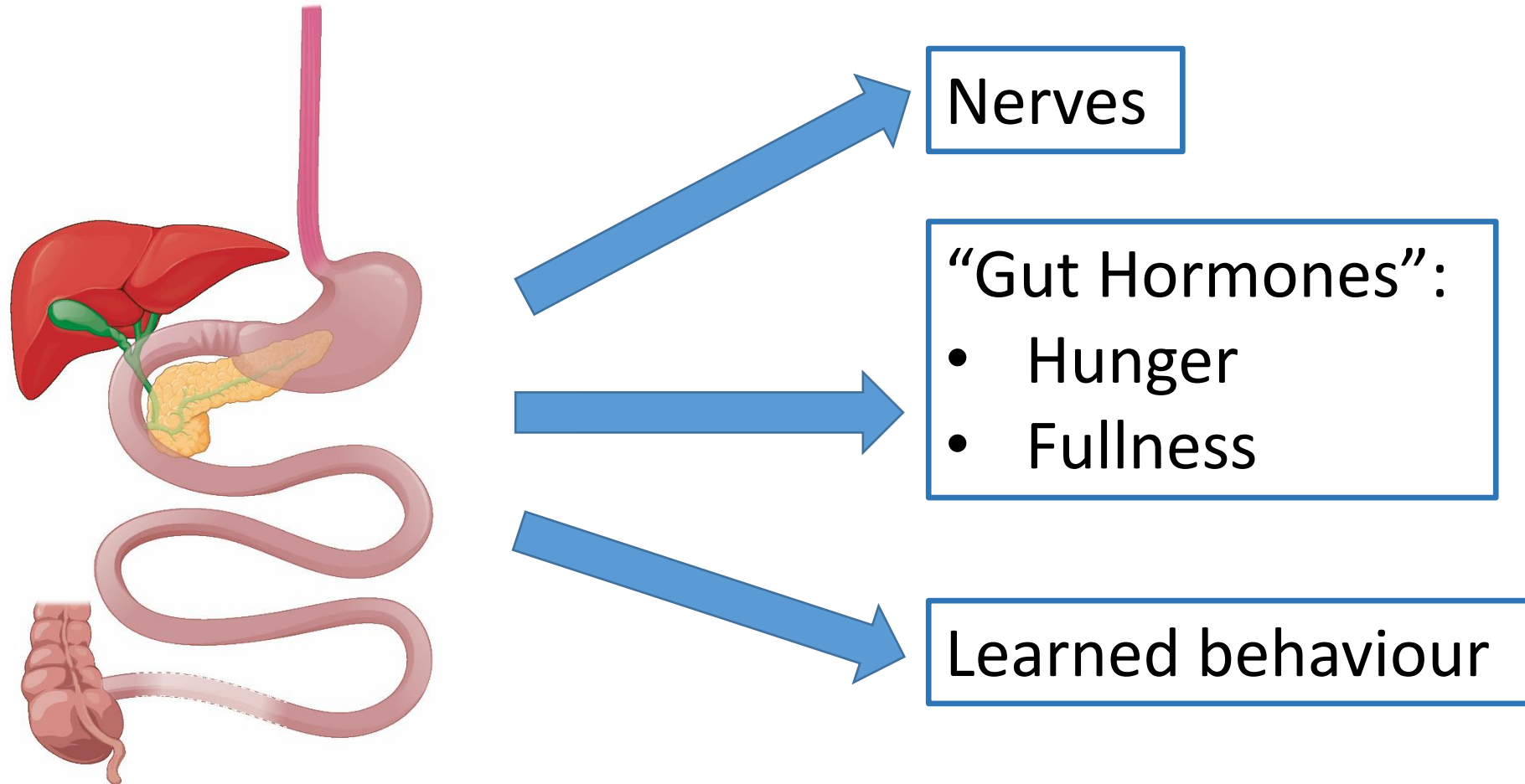
- Hormone = a chemical made in one part of the body, in response to some stimulus, that travels to another part of the body to make it do something
- Or, in other words, a way for different parts of the body to signal to each other

Anatomy and eating

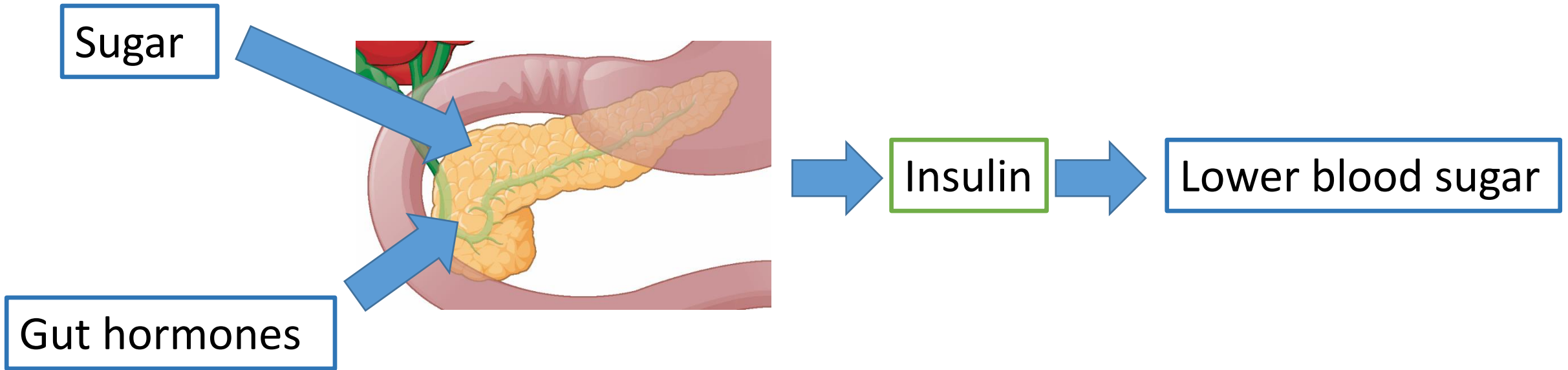


- Food passes through gullet to stomach
- Mashed and partially digested in stomach
- Held in stomach by a valve – the pylorus
- Slowly released into the small intestine
- Nutrients absorbed in small intestine
- Water absorbed in colon

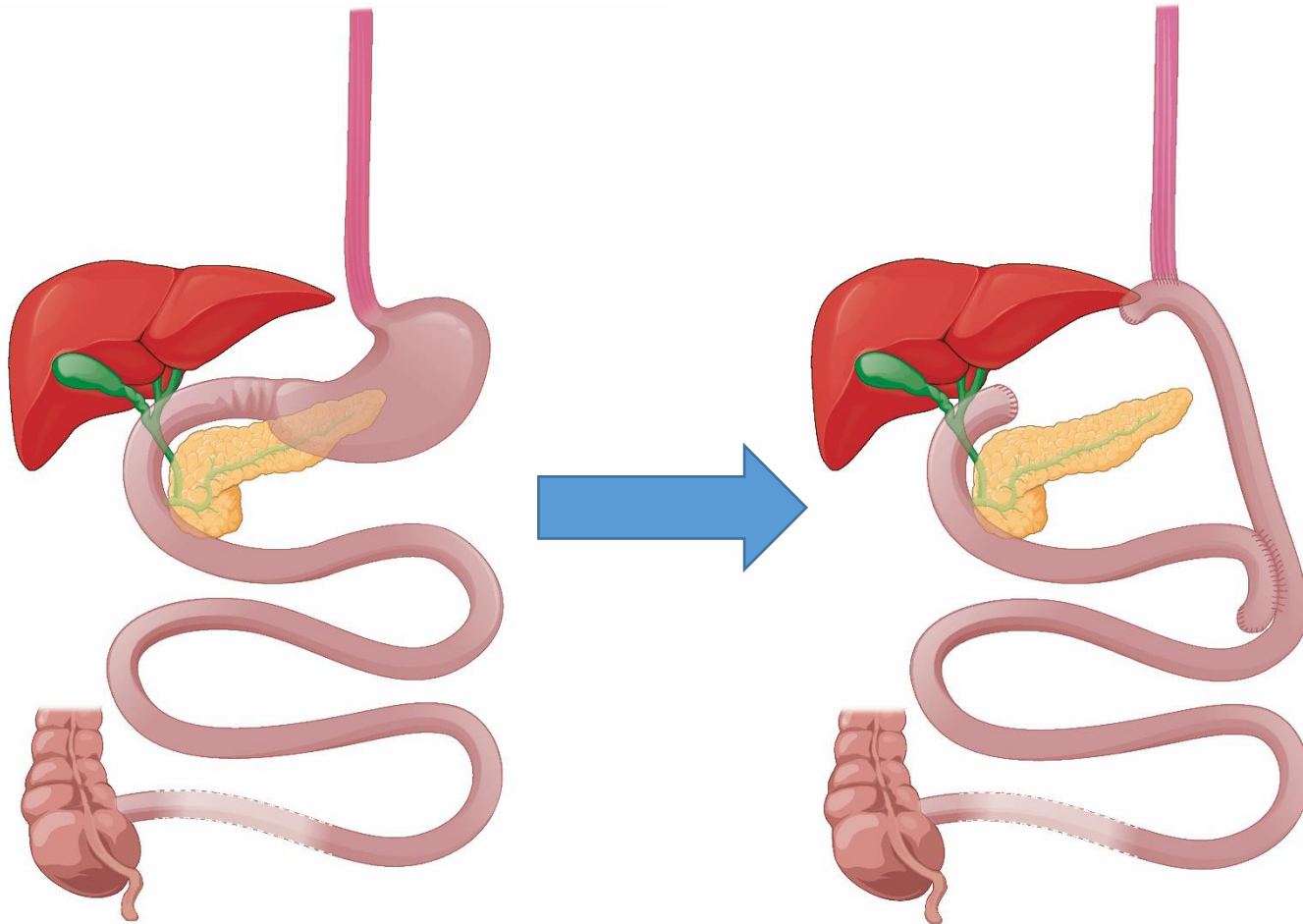
Control of hunger and eating



Control of blood sugar

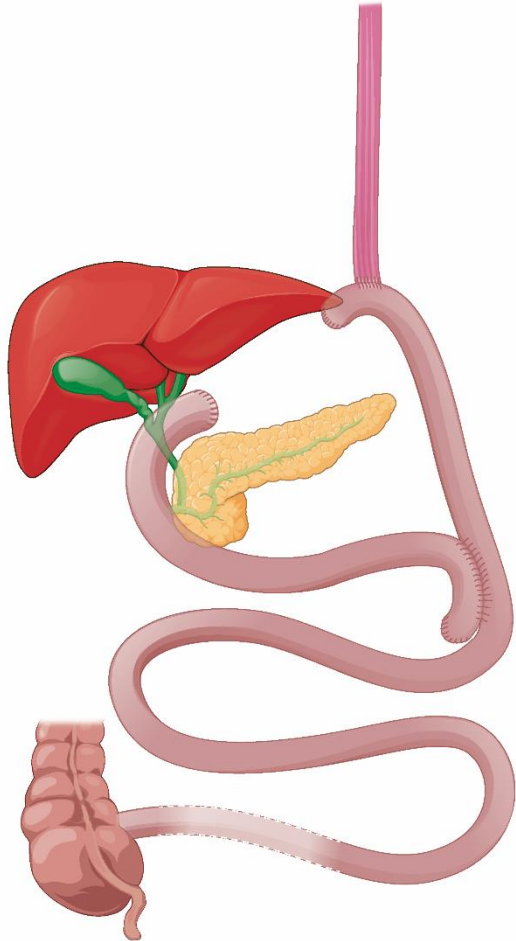


Anatomy after gastrectomy



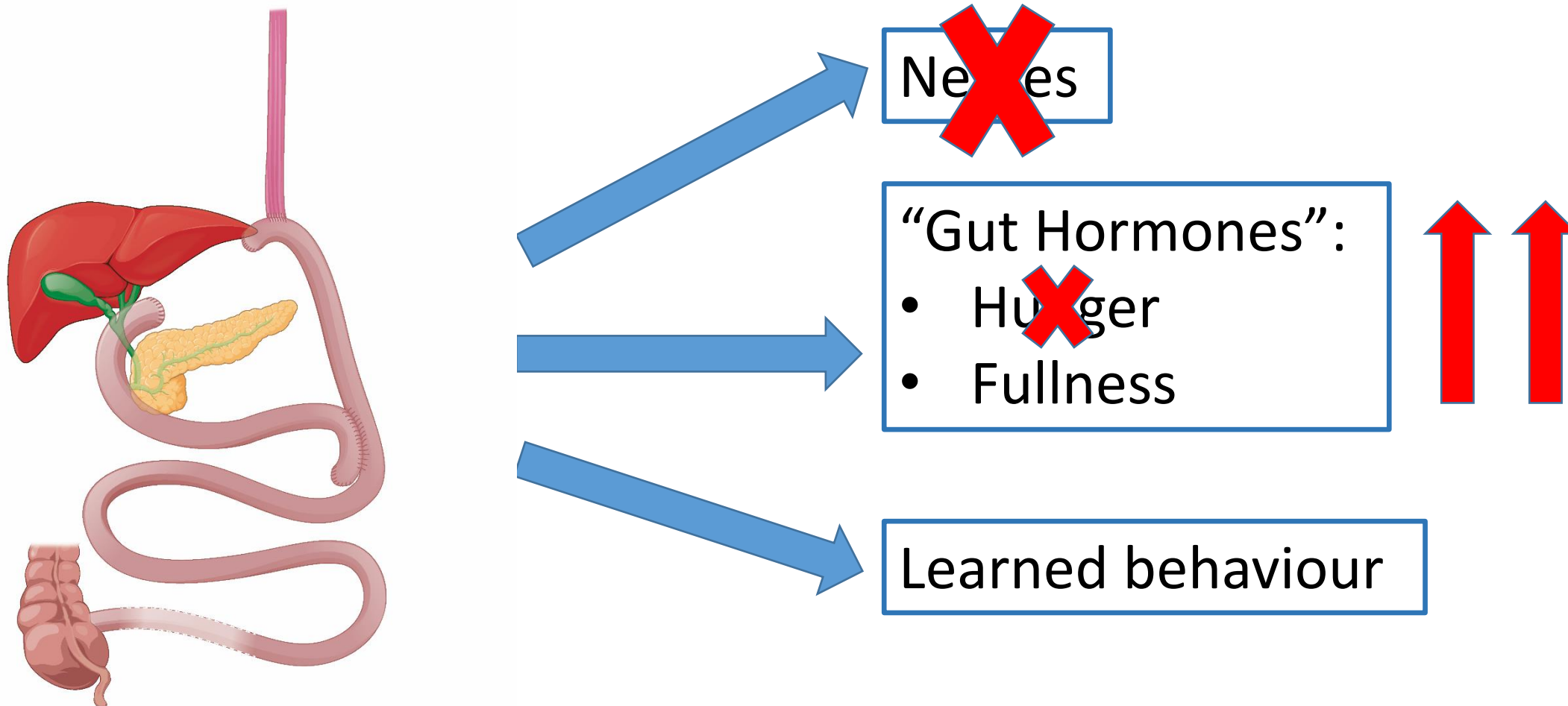
- Whole stomach removed
- One or both vagus nerves divided
- Small intestine divided into “Y” shape
 - Known as Roux-en-Y
 - One limb carries food
 - One limb connects to bile / pancreatic juice
 - Each limb ~50cm

What this means



- No stomach!
 - No reservoir for food
- Everything eaten immediately enters small intestine
- Faster transit of food through the gut
- Reduced absorption of vitamins and minerals

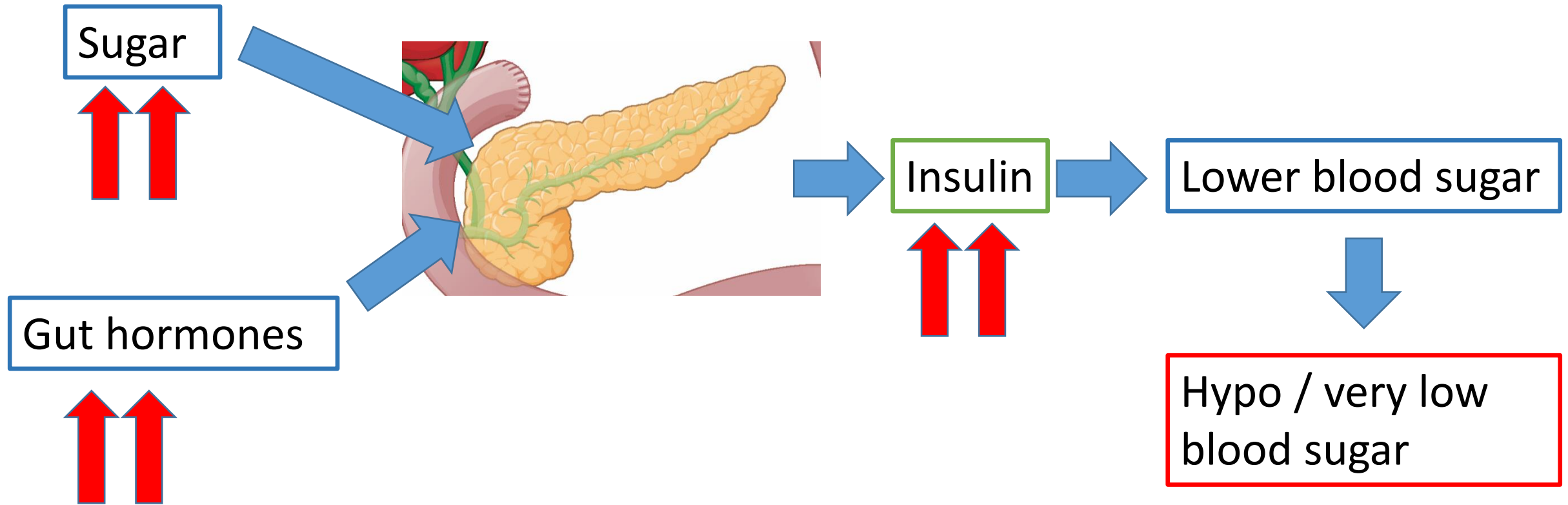
Food sensing after gastrectomy



What this (probably) means for you!

- Hunger sensation changes – cut nerves and less hunger hormone
- Eating small amounts triggers the same response as over-eating
 - Nausea
 - Sweating
 - Palpitations
 - Pain / bloating
- Diarrhoea from food travelling too fast and not being absorbed
- Weight loss from reduced intake

Control of blood sugar after gastrectomy



Very low blood sugar / hypo episode

- Typically between 45 minutes and 3 hours after a meal
- Symptoms:
 - Fatigue
 - Irritability
 - Tremor
 - Slurred words
 - (fainting / seizures)
- Treatment:
 - Self-limiting within 30 minutes
 - Snack, including some complex carbohydrate

A note on “dumping syndrome”

- Much abused term
- “Early dumping” relates to immediate post-prandial sensations of over-fullness
- “Late dumping” refers to low blood sugars
- Has also been used to describe diarrhoea and urgency

Vitamin / mineral absorption

- No good science
- *Probably lower absorption of many vitamins and minerals*
 - Faster transit
 - No acid / stomach enzymes
 - No exposure to duodenum (upper small intestine)
- Recommendations:
 - Daily multivitamin and mineral
 - Vitamin B12 injections
 - Annual blood tests

Possibilities for the future

- Better understanding and education
 - Nicola is up next!
 - Video to come this year
 - Appreciate that low blood sugar can happen
- One specific gut hormone (GLP-1) has a major effect
 - Definitely on blood sugar
 - Probably on symptoms / fullness
 - Possibility of targeted drugs for some symptoms – but not soon



Thanks

- Sue Richardson, Rebecca Fitzgerald and Massi di Pietro
- Paul Fletcher and Hisham Ziauddeen
- WT-MRC TRF, esp Bensi Vargese
- Core biochemical assay lab

EFSD European Foundation
for the Study of Diabetes



NIHR/Wellcome Trust
Cambridge Clinical Research Facility