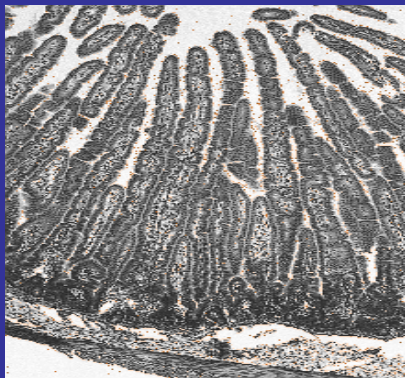


Neonatal intestinal growth, diet and GLP-2

Per T. Sangild
Professor, PhD, DSc,
**Department of Human Nutrition,
University of Copenhagen**

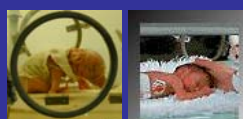
Villous growth, enteral food and GLP-2

TPN+GLP-2



Cross section of intestine

Total Parenteral Nutrition



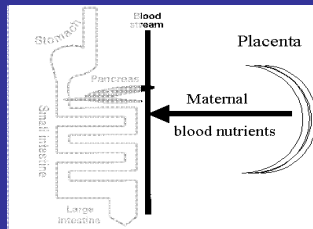
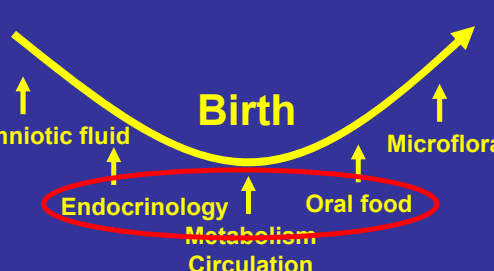
Preterms

Am. J. Physiol. 279, 2000

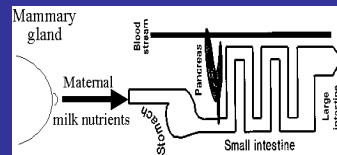
Nutritional transition at birth:

Parenteral nutrition
in utero

Enteral nutrition
ex utero

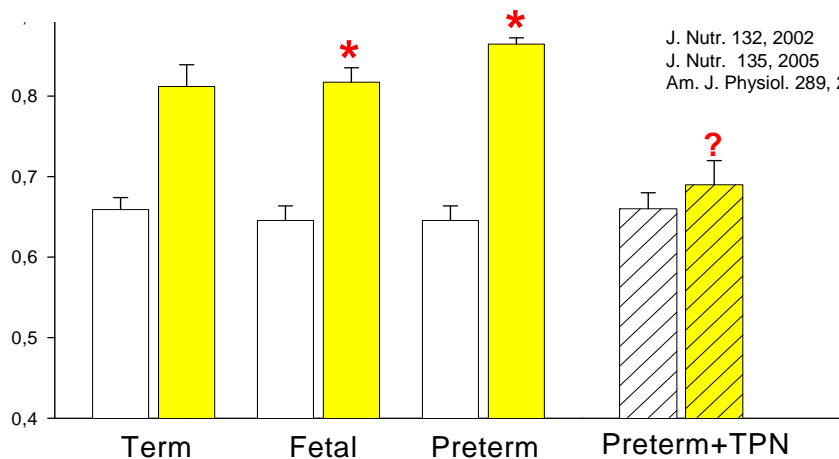


How does
the gut
adapt?



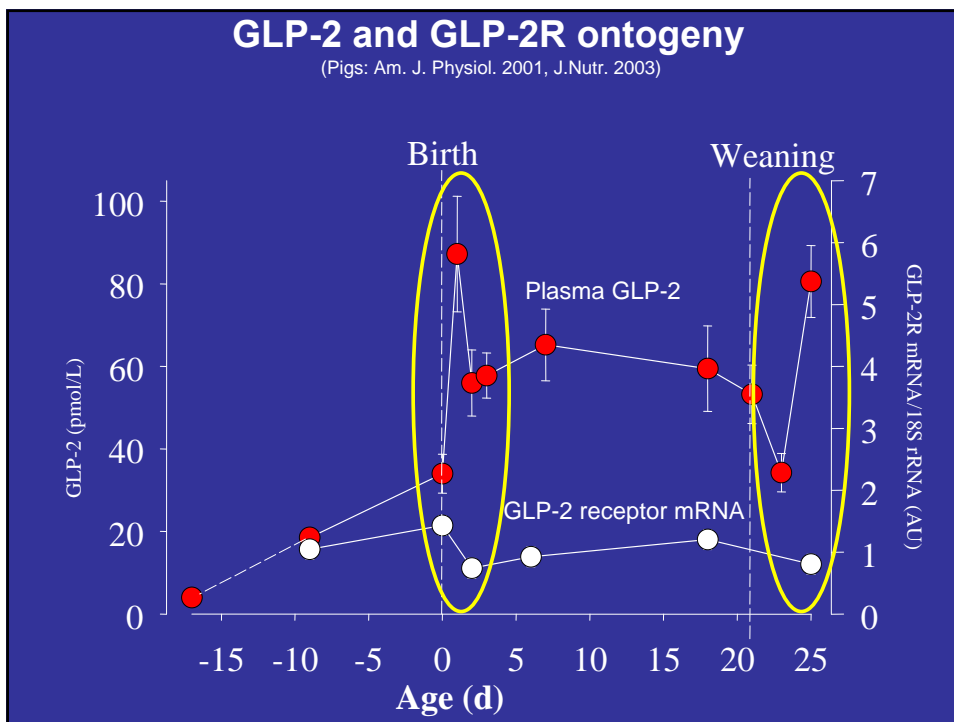
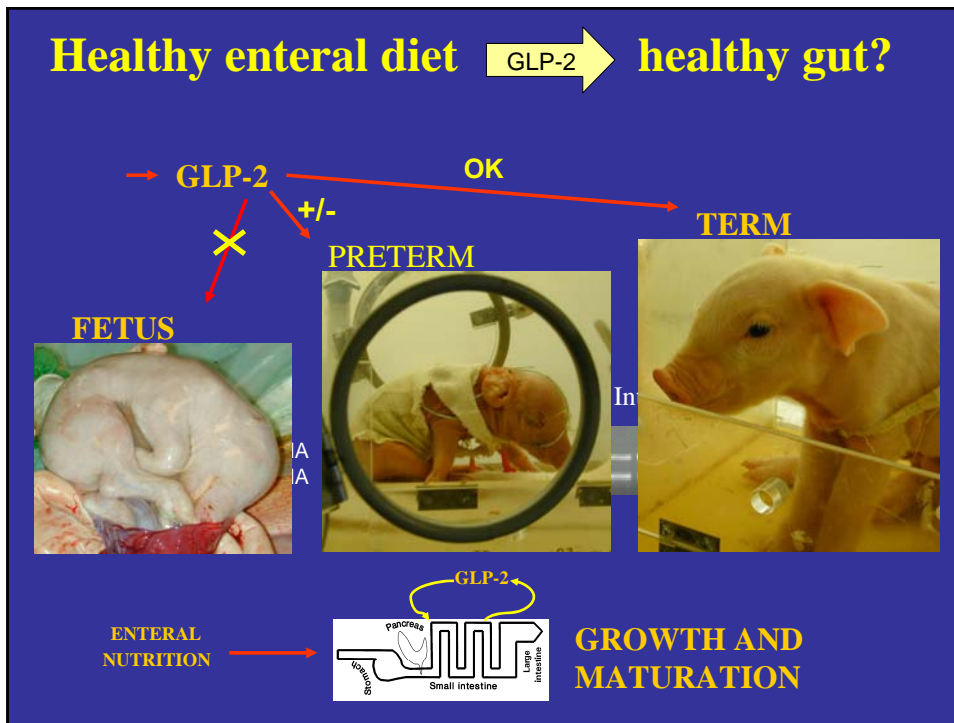
Response to the first enteral milk:
Intestinal mucosa (%)

Unfed
Colostrum
(15 mL/kg/3h for 24h)

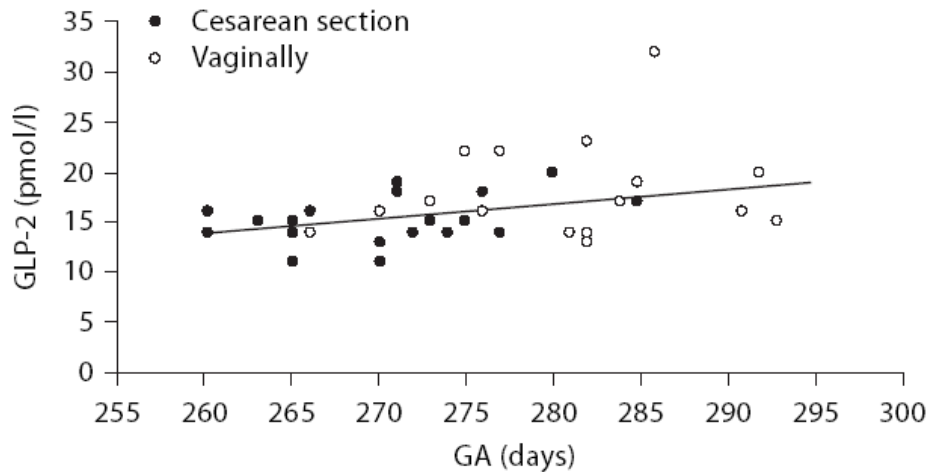


J. Nutr. 132, 2002
J. Nutr. 135, 2005
Am. J. Physiol. 289, 2005





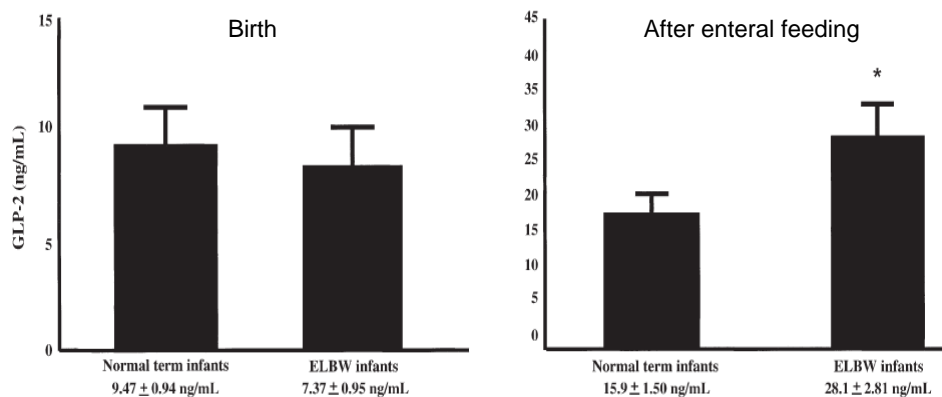
GLP-2 in newborn infants



No prenatal increase in GLP-2!

Bode et al., Neonatology. 2007.

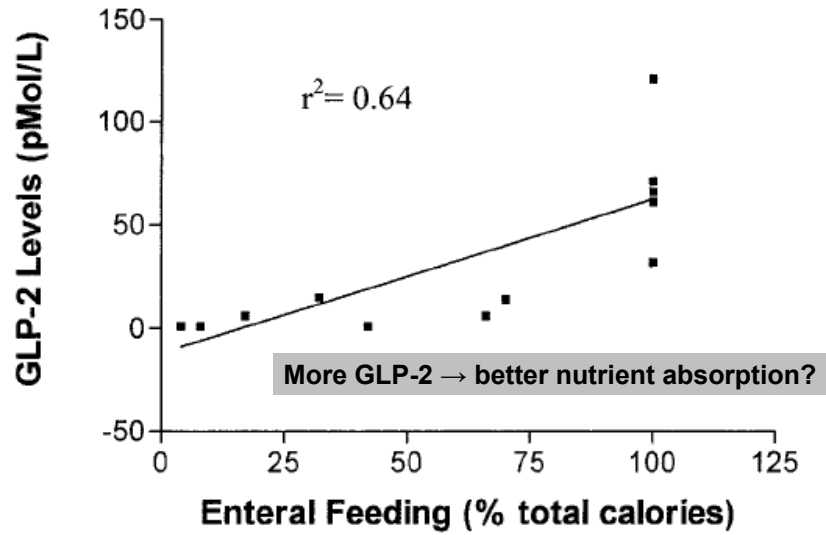
GLP-2 in newborn infants



No prenatal increase in GLP-2!
 - Preterms GLP-2 responsive?

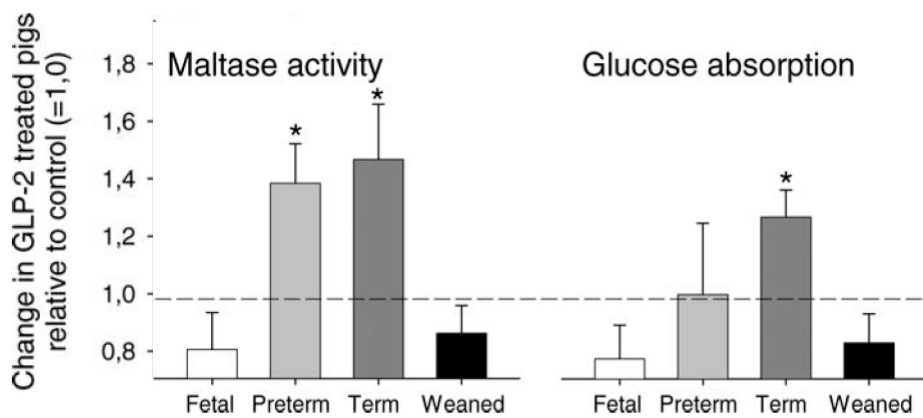
Yoshikawa et al.,
 Pediatr Int. 2006

GLP-2 in gut-resected newborns (Short-Bowel Syndrome, SBS)



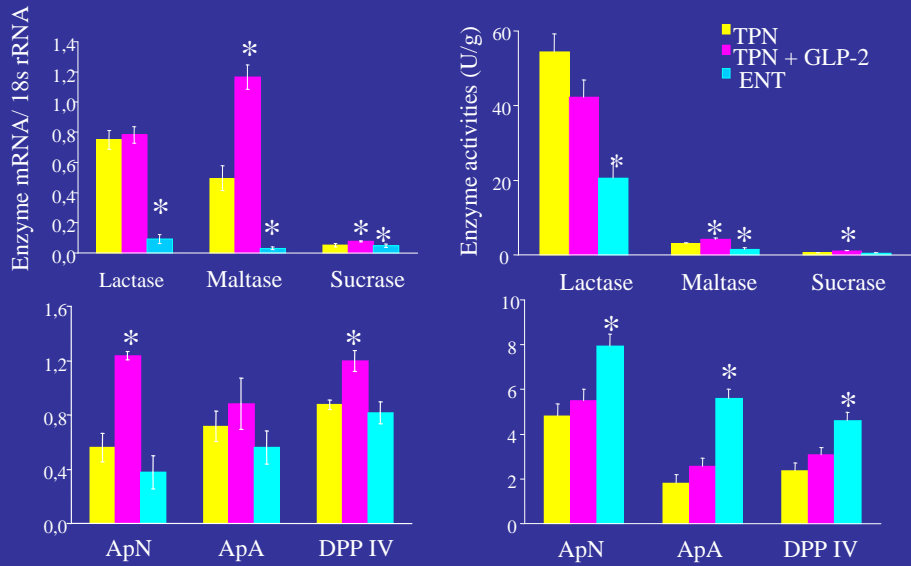
Infants: Sigalet et al., *Pediatr Res.* 2004.

Developmental responsiveness to GLP-2



J.Nutr. 2003
J.Pediatr. Gastroent. Nutr. 2006

ENZYME mRNA & activity in preterm pigs (Pediatr. Res. 2002)



Differential effects of GLP-2 and enteral food on enzyme activity/mRNA

GLP-2 release in preterm and term piglets (J. Nutr. 2003)

(J. Nutr. 2003)

