

ORAL GLUCOSE TOLERANCE TESTING

For the detection of small intestinal malabsorption syndromes (this test has no relevance to large intestinal disease such as parasitism) or for insulin resistance (Cushing's disease and/or equine metabolic syndrome).

Protocol

- 12 hour fast prior to testing (allow water)
- Take 'baseline' oxalate-fluoride blood sample
- Give 1g/kg glucose as warm 20% solution by stomach tube (ie. 250g in 1250ml for 250kg, 500g in 2500ml for 500kg)
- Take oxalate-fluoride bloods hourly for 5-6 hours (or just once at 2 hours gives reasonable interpretability)
- Analyse samples for glucose and plot graph

Interpretation

'Normal' response is an approximate doubling of baseline blood glucose at 2 hours post-dosing. However, severely hypoalbuminaemic (<15 g/L) cases may have depressed peaks (?due to bowel oedema) in the absence of small intestinal pathology. Often therefore, normal horses peak between 90-150 minutes and the peak may only be 60-70% above baseline. A normal response is quite reassuring of small intestinal absorptive function.

A **'partial malabsorption'** (15-65% rise) is often significant and merits a retest at a later date.

A **'total malabsorption'** is regarded as a no greater than 15% rise in blood glucose at 2 hours post-dosing. This is almost always a highly significant finding leading to a poor prognosis although occasional cases of total malabsorption have been known to improve.

'Insulin resistance' is indicated by a high peak (often > 2.5x baseline) and a prolonged return to baseline (often > 6-7 hours). This is a common finding in horses with Cushing's disease and/or so-called equine metabolic syndrome.

