Poor blood sugar control is associated with increased incidence of: acute kidney injury, acute myocardial infarction, and mortality. Increased use of insulin is associated with increased morbidity/mortality.\textsuperscript{1-3}

Whey peptides have a positive effect on the glycemic response and insulin sensitivity.

- Whey hydrolysates result in release of incretin hormones
  - Gastric Inhibitory Peptide (GIP)
  - Glucagon Like Peptide-1 (GLP-1)

- GLP-1 and GIP have strong insulinotropic effects

- Whey hydrolysates result in greater GIP and GLP-1 release than intact whey protein

- GLP-1 inhibits the secretion of glucagon; glucagon signals the body to convert stored energy (glycogen) to glucose

- Whey peptides inhibit Dipeptidyl Peptidase IV (DPP-IV). DPP-IV degrades GIP and GLP-1

Ask your Nestlé Sales Representative for further information on the relationship between whey and glucose management.

Whey empties the stomach rapidly, does not coagulate and is metabolized faster than other proteins, causing a rapid rise in serum amino acids. The elevating amino acids stimulate insulin secretion.

Incretin hormones, glucagon-like polypeptide-1 (GLP-1) and gastric inhibitory peptide (GIP) have strong insulinotropic effects. Amino acids and peptides from whey may increase the release of both GLP-1 and GIP, in turn, causing an increase insulin secretion and promoting gastric emptying and appetite regulation. Dipeptidyl Peptidase-IV is an endogenous protein that quickly breaks down GIP and GLP-1, contributing to higher blood glucose levels. Hydrolyzed whey peptides inhibit DPP-IV activity, which may help improve blood glucose control.

Consuming whey protein hydrolysates significantly increases insulin secretion as compared to intact whey, thus improving blood glucose response in both healthy people and those with Type 2 diabetes mellitus. This is considered a nutraceutical benefit by some researchers.

Conclusions:
Whey protein promotes improved glycemic response in patients with chronic and acute hyperglycemia. Significant potential exists for the use of whey protein as a preventative measure in people at risk of developing Type 2 diabetes mellitus.