

Laparoscopic Surgery for Diabetes

腹腔鏡糖尿病手術(英文)

Diabetes Surgery

Due to recent changes in lifestyles, the average life has prolonged while the population of chronic diseases has risen annually. This is most obvious in the rapid increase of diabetes patients. Investigations suggest that there are approximately one million diabetes patients in Taiwan and most of them will have to live with the disease for the rest of their lives. In the past 20 years, diabetes has become one of the major chronic diseases in Taiwan and its mortality rate is listed as one of the top 10 causes for several years already. It shows the severity of the threats diabetes has to national health, which also affects the living quality of patients. Hence early diagnosis and early treatment is quite important for the prevention of complications.

Diabetes Complication

Macroangiopathy	Eye lesion	Renal Disease
Slow Wound Healing	Cataract	Edema
Amputation	Retinopathy	Proteinuria
Neuropathy	Glaucoma	Rising Blood Pressure
Hypoesthesia		Hemodialysis

Surgical Treatment Mechanism

- Weight Loss

The main cause of approximately 80~80% of Type II diabetes is the metabolic disorders resulted from obesity. Obesity is the main cause of the disease and hence weight loss is highly important for the control of blood sugar for Type II diabetes patients. The more evident the weight loss in Type II diabetes patients, the more manageable the disease becomes.

- Reduced food intake

Food intake reduced after weight loss surgery is related to weight loss and the ease of Type II diabetes.

- Change of hormones secretion in gastrointestinal tract

The gastrointestinal tract is an important organ for internal secretion, which can secrete multiple gastrointestinal hormones. The stimulation of synthesis and secretion proliferation of gastrointestinal hormones is the key mechanism of the surgical treatment for diabetes.

Types of Surgeries

- Restrictive Surgery

- Laparoscopic Gastric Sleeve Surgery (Sleeve Gastrectomy) (as shown in Figure 1)
- Introduction: Removes sleeve from gastric antrum through laparoscopic surgery and retain approximately 100 c.c. of gastric capacity.
- Advantage: Stomach hormone secretion and hunger perception are reduced after removing the stomach.
- Disadvantage: Gastroesophageal reflux disease, approximately 15 %.
- Rate of Reduced weight: 70 %.
- Diabetes treatment effect: 60 %.

- Gastric Bypass Surgery

- Bariatric surgery (as shown in Figure 2)
- Introduction: Bariatric surgery forms a 30ml gastric pouch in the stomach to restrict the amount of food intake with intestinal bypass to reduce absorption.
- Advantage: Currently the most effective weight loss surgery and extremely low, long-term, weight-regain rate. Increases gastric tract hormones secretion, promotes insulin secretion and improves blood sugar control.

- Disadvantage: Lack of trace elements by approximately 15 %.
- Rate of Reduced weight: 70 ~ 75 %.
- Diabetes Treatment Effect: 84 % ◦

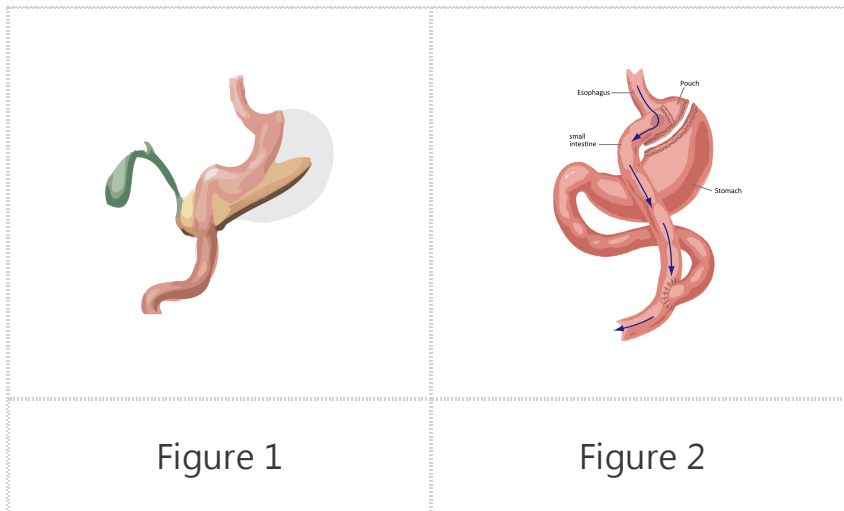


Figure 1

Figure 2

Applicable Targets of Surgery

- Patient who could not control their Type II diabetes.
- Patients without serious complications.
- Patients with less than 15 years of morbidity.

Precautions

- Mortality rate is smaller than 0.1 % (a safe surgery similar to Laparoscopic Cholecystectomy).
- Gastric Bypass Surgery requires long-term supplement of vitamin complex after the surgery.
- Nutritionist will provide professional nutrition and diet guidance after surgery.
- Patients will require one return visit for follow-up in the 1st week, 1st month, 3 months, 6 months, 1 year and annually afterwards.



Figure 3

Post-operative wound after
Laparoscopic Sleeve Gastrectomy)
(Single cut)



Figure 4

Post-operative wound for
Laparoscopic Gastric Bypass Surgery

若有任何疑問，請不吝與我們聯絡
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