DIET IN STRESS, BURNS & SURGERY
What is stress???

• It's an stimulus or condition that threatens the body's mental or physical well-being

• It can be mental, emotional, or physical
Not all stress is negative

• A balanced amount of stress maximizes health

• Human being need some stress for mental well-being

• Mental stresses related to ambition, drive & desire may in fact be perceived as positive
Chronic disease

• Mental stress is related to the incidence of cancer, cardiovascular diseases, hypertension and some form of GI diseases

• All of this chronic disease are related to nutrition

• A healthy mental state is known to be important for reducing the risk of heart diseases
• Patient who are ordinarily tense, impatient & ambitious tend to have a high serum cholesterol level
Nutritional requirements during stress three main factors

- Kind of stress
- Nutritional status of patient
- Age of the patient
Requirements for nutrients

Energy

• A person who responds to mental stress with increased physical or muscle activity needs additional kilocalories to maintained body weight

• Mental stress may cause a person to sleep less walk more, fidget or increase the work of muscles

• A healthy, well-balanced diet with adequate protein, fiber, mineral, & vitamins is the best nutritional insurance against excessive stress
What is burn??

- Tissue injury caused by thermal radiation, chemical or electrical contact

- Resulting in protein denaturation burn wound edema & loss of intravascular fluid volume due to increased vascular permeability
Classification

First degree only epidermis is affected

Include oral fluids Medications for pain relief
Second degree

Both epidermis & dermis are injured

Maintain aseptic & hygienic conditions. Provide fluids & adequate nutrients in diet for healing
Third degree

The epidermis, dermis & nerve fibers destroyed

Lack of pain

Generous intake of fluid, adequate nutrients in well planned diet
Fourth degree

Subcutaneous tissue, muscle & bone are damaged

A well planned diet is needed for recovery
Complications

- Stress ulcers
- Prevention
- Fluid replacement to prevent hypovolemia
- Oxygen therapy prevent hypoxia, gastric mucosa
Principle of diet therapy

• Burn patients remain in a hyper metabolic state for many weeks

• Which raises kilocaloric needs

• The deeper the burn the higher is the kilocaloric need
A high protein, calorie & vitamin diet is recommended

Rebuilding of tissues damaged/destroyed & catabolised
• kilocaloric requirements may be as high as 3,500-5,000 cal/day
• Include high carbohydrate foods
• Protein requirements varies from 150-400 g/day
• Vitamins needs generally increases
• Vitamin C for wound healing
• Include extra fluids & electrolytes in the diet
Surgery – Preoperative nutrition

• Before elective surgery, nutritional deficiencies should be identified and corrected

• Surgical clients should receive instruction in the weeks before surgery

Protein: The most common nutritional deficiency related to surgery is that of protein

Energy: Sufficient kilocalories should be provided to build up any weight deficit

Vitamins and minerals. Water and electrolyte balance should be maintained
• **Immediate preoperative period**

  Usually nothing is given by mouth for at least 8 hours before general surgery.

  In case of emergency surgery, if the patient has recently eaten a meal, gastric suction is used to remove it.
Planning the preoperative diet

• Patients who have lost much weight prior to surgery may benefit considerably by ingesting a high protein high calorie diet.

• The diet may be of liquid, soft, or regular consistency depending upon the nature of the pathologic condition.

• Foods which provide a maximum amount of nutrients in a minimum volume are essential.

• Small feedings at frequent intervals are likely to be more effective than large meals.
Postoperative nutrition

- In surgical disease, losses are greatly increased Therapeutic nutritional support therefore becomes all the more significant as a means of aiding recovery.

**Protein:** In the postoperative recovery period adequate protein intake is a primary concern to replace losses and supply increased needs.
There are number of reasons to increase protein demand.

- Tissue synthesis in wound healing
- Avoidance of shock
- Control of edema
- Bone healing
- Resistance to infection
- Lipid transport
• **Energy:** A sufficient kilocaloric intake is essential and often critical to the successful outcome of surgical procedures.

• **Protein:** A high protein diet is recommended.

• **Fluid:** It should be maintained in sufficient quantity according to individual need.

• **Minerals:** Electrolyte losses, especially sodium and chloride, accompany fluid losses. Iron deficiency anemia may develop from blood loss or from faulty iron absorption.

• **Vitamins:** All of the vitamins play important roles in the healing process. Vitamin C especially is imperative for wound healing.
Planning the postoperative diet

- The healing process requires increased amounts of protein, vitamin C, and K zinc along with adequate amounts of other nutrients.

- Intravenous fluids are continued after surgery.

- After minor surgery, liquids are often tolerated within a few hours and rapid progression to a normal diet is made.

- After major surgery, however, oral intake may be delayed for days.

- Patients are usually progressed from clear liquids, to full liquids, a soft diet and then a regular diet as soon as possible.
• After gastrointestinal surgery, oral food and fluids are deferred longer than with other surgeries to allow healing.

• It is not advisable to give red liquids, such as gelatin or cranberry juice, after surgery on the mouth and throat so that vomitus is not mistaken for blood or vice versa.

• Surgical removal of a part of the gastrointestinal tract, such as the stomach, duodenum, jejunum, or ileum, may result in malabsorption of specific nutrients.