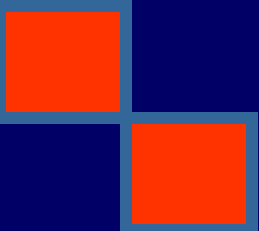
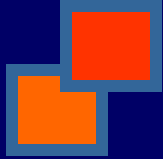


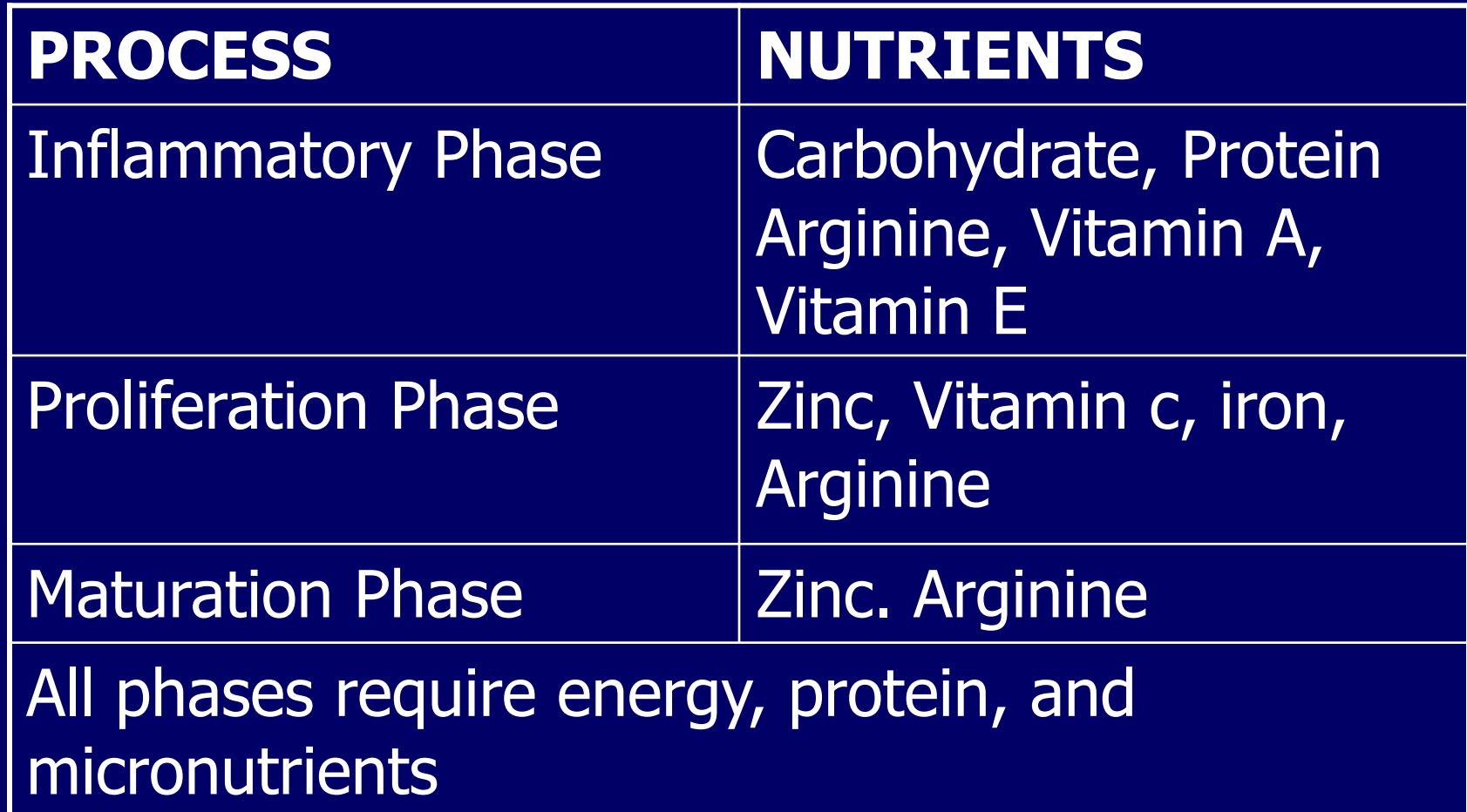
Good nutrition vital for wound healing!





# Nutrition & healing

- 
- Role of Nutrition in wound healing
  - Who is at risk of poor wound healing from poor nutrition?
  - Meeting Nutritional needs
  - Assessment and Treatment
- 



<b>PROCESS</b>	<b>NUTRIENTS</b>
Inflammatory Phase	Carbohydrate, Protein Arginine, Vitamin A, Vitamin E
Proliferation Phase	Zinc, Vitamin c, iron, Arginine
Maturation Phase	Zinc. Arginine
All phases require energy, protein, and micronutrients	



# ENERGY/ADEQUATE CALORIES

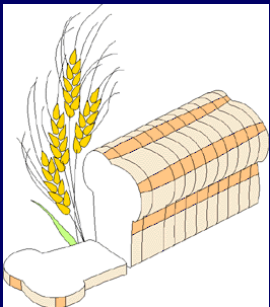
Essential for tissue repair

- Carbohydrates and Fats provide cells with energy
- Prevent catabolism
- Glucose is needed to meet the metabolic demand for wound healing
- Glucose is the energy for white cell function
- Fats are the primary source of stored energy in the body

# Food Sources

## Carbohydrate

- Breads & Cereals
- Fruits & vegetables
- Yoghurt & Milk
- Jams, sweets, chocolate, fruit juice and sugars



## Fats

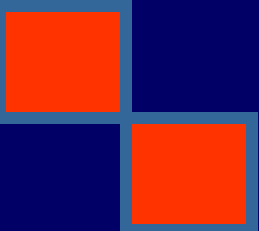
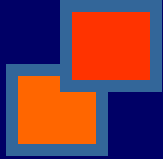
- Oils & Margarines
- Cream & Butter
- Nuts & Seeds
- Avocado





# Protein

*“Patients fed high protein diets show improved wound healing”*

- 
- Basic component of all living organisms
  - Essential for growth and repair of all tissues
  - Structural building blocks for collagen
  - Needed for the formation of antibodies
  - Prevention of secondary oedema due to low albumin
- 

# Protein Sources



- Excellent sources are all animal products
  - Meats, Chicken, Fish, Eggs
  - Dairy products (Milk, Cheese and yoghurt)
- Vegetarian sources
  - Dry beans, peas, pulses and lentils





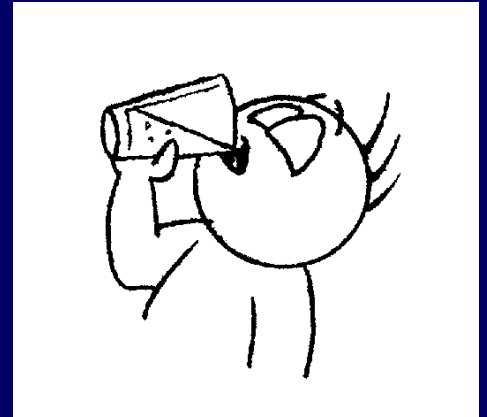
# Vitamins and Minerals

- Vitamin A
- Vitamin C
- Vitamin E
- Vitamin K
- B-complex vitamins

- Zinc
  - Iron
  - Arginine
  - Copper
- 

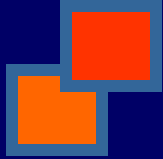
# Fluids

- Important for the normal functioning of cells
- Extra losses through wound
- Maintains skin integrity and elasticity





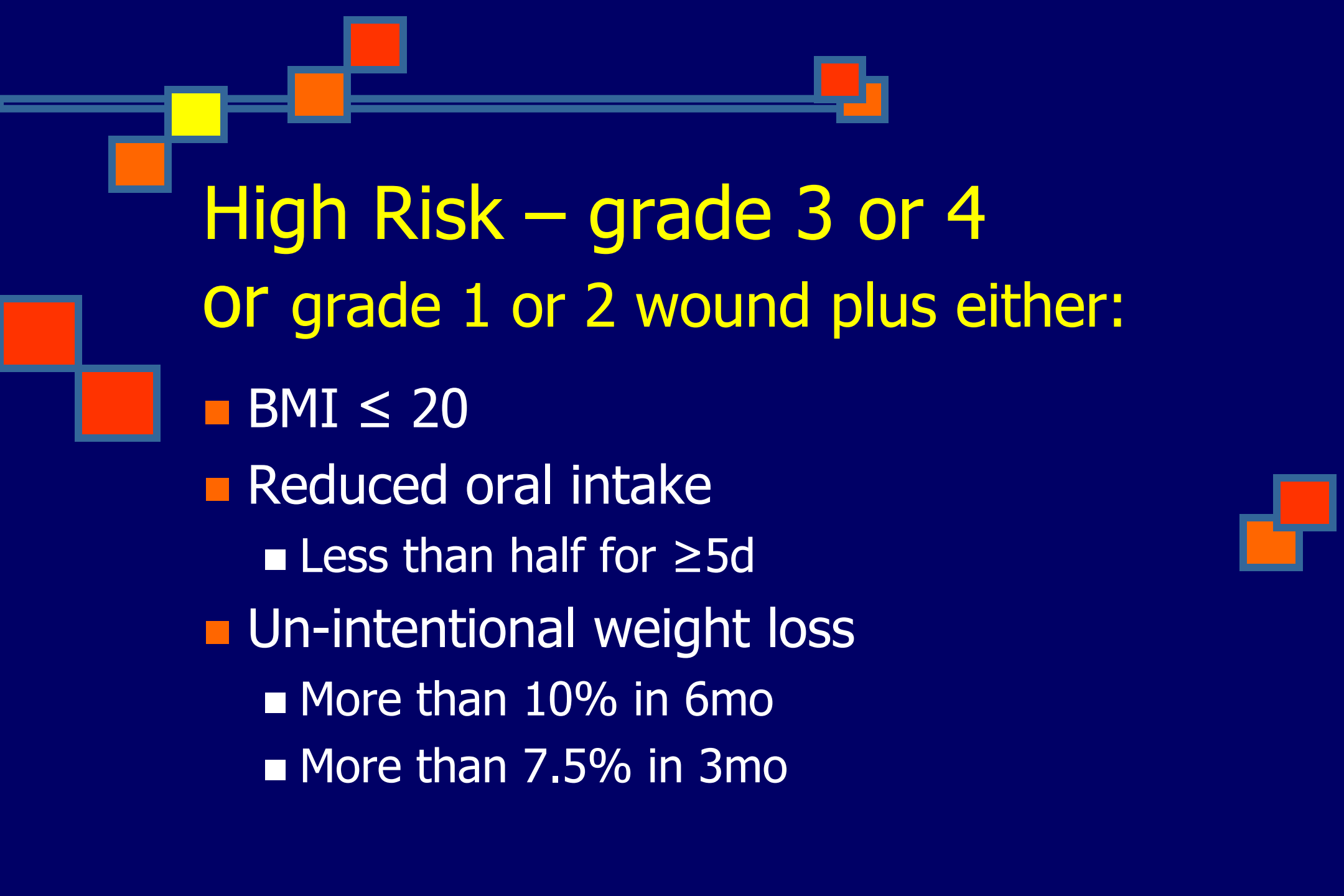
## Low Nutritional Risk – grade 1 pressure ulcer plus either:

- 1) Albumin levels within normal (35-50)
  - 2) No reported decrease in weight or oral intake
- 



## Moderate Risk – grade 1 or 2 wound plus either:

- BMI  $\geq$  21
- Reduced oral intake
  - Less than full, more than half for  $\geq$ 5d
- Un-intentional weight loss, but
  - Less than 10% in 6mo
  - Less than 7.5% in 3mo

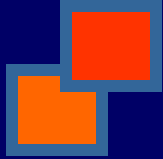


## High Risk – grade 3 or 4 Or grade 1 or 2 wound plus either:

- BMI  $\leq$  20
- Reduced oral intake
  - Less than half for  $\geq$ 5d
- Un-intentional weight loss
  - More than 10% in 6mo
  - More than 7.5% in 3mo

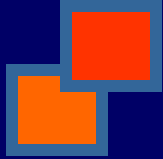


# Poor oral intake

- Unable to feed themselves
  - Dysphagia
  - Poor dentition
  - Lack of appetite, nauseas, D & V
  - Multi medications incl. chemo
  - Depression
  - Underlying disease eg renal failure
  - Effects of hospitalisation
- 



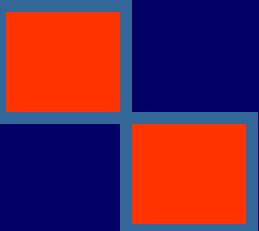
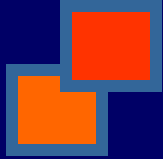
# Meeting nutritional needs

- Increased calories & protein orally
  - A combination of both oral diet & enteral feeding
  - Enteral feeding
  - Parenteral Nutrition
- 



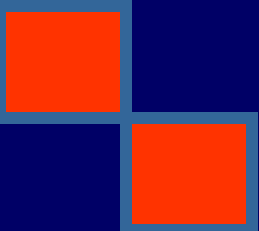
SOUND EASY?

# How to Improve a Persons Diet

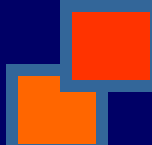
- 
- Small and frequent meals
  - Focus on high protein foods
  - 5 + Fruit and vegetables
  - High calorie/protein supplement
- 



# Supplements



Fortisip	Gives extra calories & protein 200ml bottle = 300cals & 12g protein
Fortijuice	Gives extra calories & protein. Has no fat. 200ml bottle = 300cals & 8g protein NOT FUNDED
Sustagen Hospital	Gives extra calories & protein. Is low fat if made with trim milk



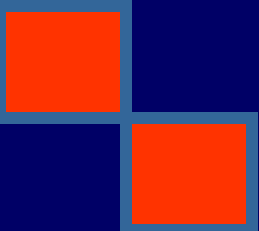
# Supplements

2 CalHN	Very high calorie and protein drink. Often charted as a medicine
Calogen	Neutral tasting high energy supplement Can have orally as a medicine Can be mixed into food 4.5cals per ml
forticreme	High energy and protein nutritionally complete pudding 201cals per pudding

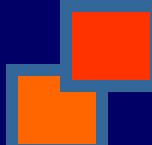


# Special Supplements

Designed for patients with pressure ulcers & surgical wounds.



Cubitan	Rich in protein, energy, arginine, vitamins C & E, and zinc 1 serve = 20g protein (2.4g Nitrogen) & 250cals
Arginaid Powder	Low calorie drink high in protein, arginine, vitamins E & C. 1 serve = 1.4g Nitrogen & 35 calories





# Assessment & Treatment

- Low risk → → → general healthy eating advice
  - Moderate risk → → → referral
  - High risk → → → referral
- 