

Diet

malnutrition:

- can be under-nutrition
eg. due to drought / war / overpopulation
- can be over-nutrition
 - leads to obesity which impairs health
 - the excess energy is deposited in **adipose tissues** as fat
 - Definition: when the Body Mass Index (BMI) is above 30, which indicates a weight of 20% or more above the recommended weight for height.
NB: BMI doesn't take into account gender, age & muscle mass

Diet:

- if more energy is **consumed** than **expended**, excess is stored in **adipose tissue**
- Excess fat stores leads to:
 - coronary heart disease
 - hypertension
 - type 2 diabetes
 - high cholesterol
 - cancer
 - arthritis
 - gallstones
- Lifestyle:
 - lack of **exercise** leads to less energy expended than stored = obesity

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Page 1 of 13

carcinogen

- ① causes mutations in epithelial cells
- ② Genes in DNA are altered; protooncogenes are genes controlling cell division, so if these are altered/mutated; they form oncogenes
- ③ causes uncontrolled cell division
- ④ leads to a cancer forming & a tumor
- tumor may block air passages
- ⑤ cells may break away from original tumor and lead to secondary tumors elsewhere in the body = Metastasis

Symptoms:

- dry cough (tumor irritates lungs, but no flm)
- coughing up blood
- chest pain
- Shortage of breath
- swollen lymph glands
- weight loss

Lung cancer:

- ① Tar contains carcinogens
- ② eg. benzo(a)pyrene
- ③ enters lungs/epithelial tissues/cells
- ④ cilia destroyed ∴ can't remove carcinogens
- ⑤ enters nucleus & in contact with DNA
- ⑥ causes mutations
- ⑦ protooncogene → oncogene
- ⑧ uncontrolled mitosis
- ⑨ forms a tumor
- ⑩ NO apoptosis

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Page 10 of 13