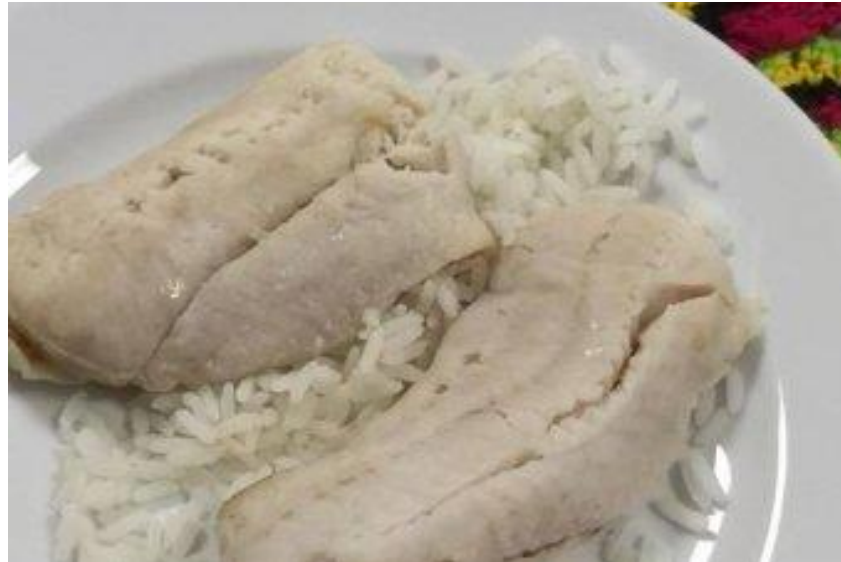


Disordered eating in elderly



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Overview

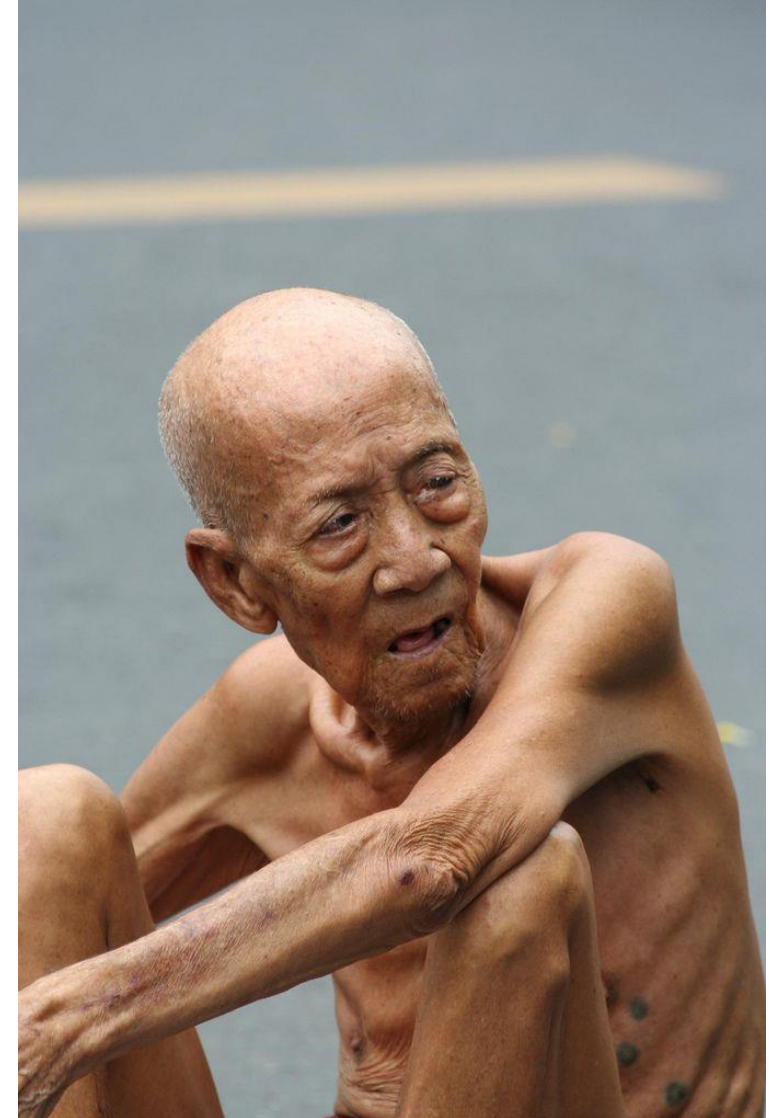
- Malnutrition
- Appetite regulation
- Changes in the elderly
- Eating disorders
- Screening tools
- General principles of management
- Legal issues

Low-calorie intake one of the main risk factors for malnutrition: this condition, referred to as '**anorexia of aging**' (Morley, 1997)

Consistent reduction of food intake in the elderly is only partly balanced by reductions in energy expenditure, so older men and women mainly lose body weight (Baumgartner et al, 1998)

Many of the social, psychological and organic conditions with aging are also recognized causes of reduced food intake and malnutrition.

Several diseases which are frequently associated with the elderly lead to weight loss, mainly by elevating energy expenditure, but also because they depress hunger sensation.



Physiological

- Dry mouth
- Dysphagia
- food specific satiety impaired
- impaired taste and smell

Drugs

Amiodarone

Furosemide

Acetylcholinesterase inhibitors

Digoxin

Spirolactone

Theophylline

Levodopa

Fluoxetine

Lithium

Gastrointestinal H2-antagonists

PPI

Antibiotics, metronidazole

Chemotherapy



Medical illness

- COPD
- Neoplasia
- Stroke
- heart failure

Social

- Social isolation
- Loss
- Bereavement
- Family conflict
- Poverty

Psychiatric

- Depression
- Dementia
- Eating disorder
- Anxiety
- Psychosis
- Delirium

Consequences

Increased infection

Anaemia

Cognitive decline

Osteopenia

Sarcopenia

Altered drug metabolism



Higher risk of hospitalization, delayed discharge and mortality (Chapman et al 2002)

Central satiety regulation

Leptin from adipose tissue and **insulin**

from the pancreas rise in the blood as a long-term signal of adiposity (they indicate the presence of a positive energy balance to the hypothalamus).

Vagal nerve, stimuli from stretching receptors of the stomach rise after gastric filling by food and this evokes the sensation of satiety.

CCK, produced by the intestine in the presence of lipids and amino acids potentiates postprandial satiety.

Ghrelin, a hormone produced by the stomach during fasting potentiates hunger



Elderly hormonal changes

Higher **CCK** concentrations in the blood of aged compared to young persons.

Reduced **glucose** tolerance and elevated **insulinaemia**.

Fasting **leptin** elevated.

lower sensitivity to **ghrelin**.



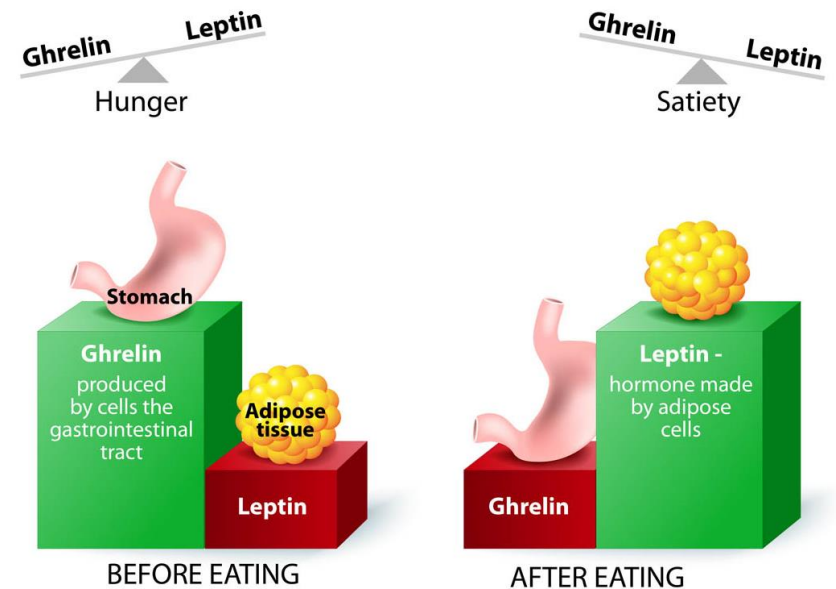
Peripheral satiety regulation

Taste, flavour and sight of pleasant food enhance hunger

Ghrelin is the only orexigenic signal which is peripheral – and is released in a pulsatile manner by the empty stomach.

Leptin and insulin indicate energy storage in the adipose tissue and potentiate central satiety sensation.

Insulin inhibits ghrelin and leptin enforces the **CCK signal** and vice versa.



Elderly peripheral feedback

Elderly have a reduced sensor-specific satiety.

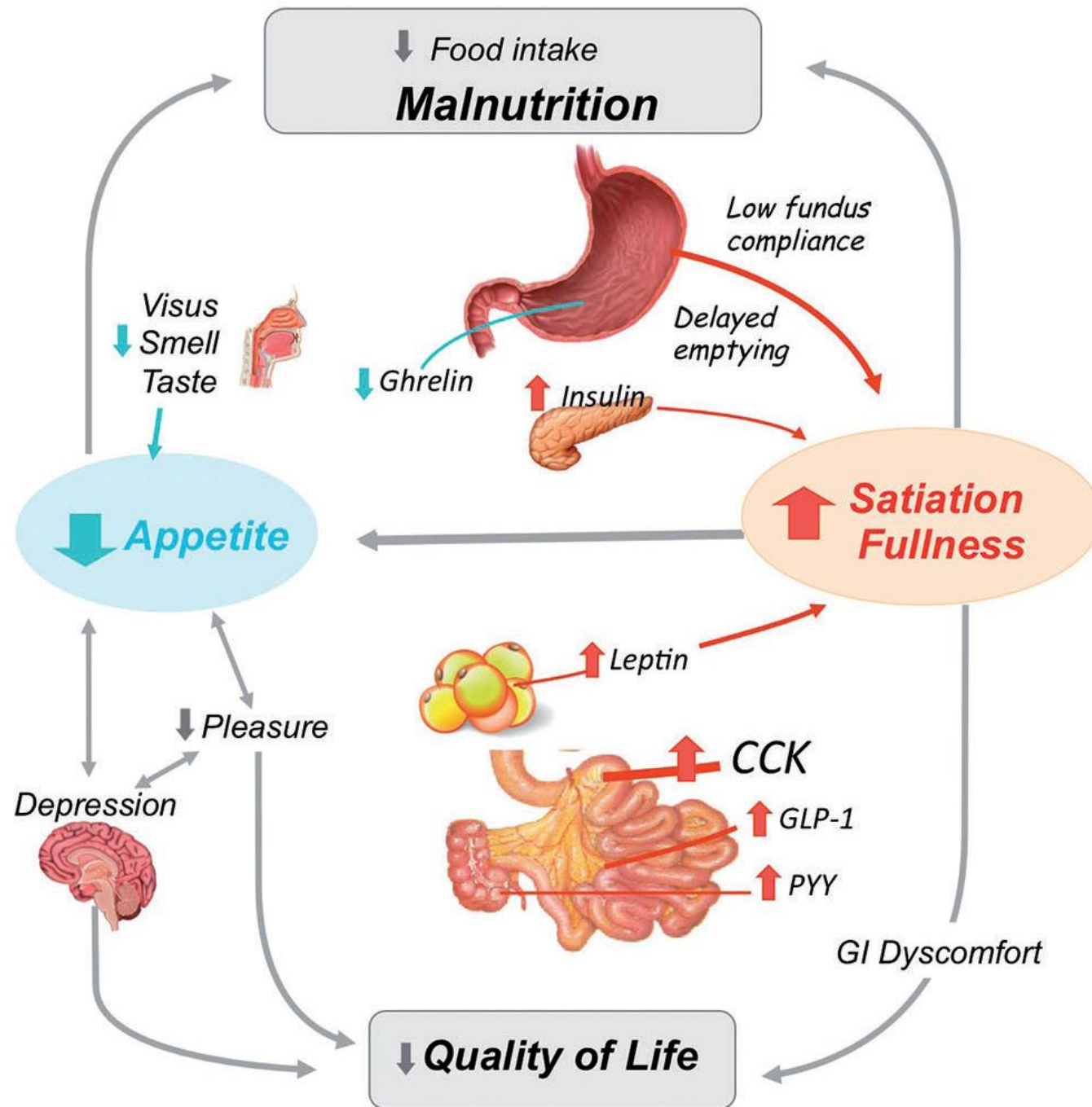
Taste is impaired with ageing with higher thresholds for recognizing sweet, bitter, salty and acid

Delayed gastric emptying may cause prolonged postprandial satiety.



Reduced fundal compliance, and prolonged satiety and slower gastric emptying.

Olfactory deficit has been demonstrated in the elderly and this may also reduce hunger.





Anorexia nervosa in elderly



DSM-5 and ICD-10 Criteria for Anorexia Nervosa

DSM-5

- **Restriction of energy intake** relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health.
- Intense **fear of gaining weight or becoming fat**, or persistent behaviour that interferes with weight gain, even though at significantly low weight.
- Disturbance in the way one's body shape or weight is experienced, undue influence of body weight and shape on self evaluation. (**Body Image disturbance**)

ICD-10

- Body weight is maintained at least 15% below that expected or Quetelet's body mass index is 17.5 or less
- The weight loss is self-induced by **avoidance of "fattening foods"** and one or more of the following: self-induced vomiting; self-induced purging; excessive exercise; use of appetite suppressants and/or diuretics
- There is **body-image distortion** whereby a dread of fatness persists as an intrusive, overvalued idea and the patient imposes a low weight threshold on himself or herself
- A widespread **endocrine disorder involving the hypothalamic-pituitary-gonadal axis** is manifest in women as amenorrhoea and in men as a loss of sexual interest and potency



Anorexia nervosa in the elderly

Often overlooked

The mean age was 68.6 years (range 50–94), and the majority (88%) of cases were females. The majority (81%) of cases had anorexia nervosa, and 10% had bulimia nervosa. Late onset eating disorders were more common (69%) than early onset. Comorbid psychiatric conditions existed in 60%, most commonly major depression. 20% mortality. (Lapid, 2019)

Gaining control over loved ones through protest and by drawing attention to the discontent they feel for their current circumstances (Harris and Cumella, 2006)

A method of indirect suicide (Harris and Cumella, 2006)

May use eating as a control mechanism to regain power in their lives, a consequence of the loss of control that accompanies aging (Harris and Cumella, 2006)

Aging physical appearance, with age-related body changes, and changes in familial relationships are associated with the development of eating disorders in the elderly (Gupta, 1990)

Anorexia nervosa in the elderly

Three groups:

- those who have suffered from an eating disorder in the past and went untreated;
- those whose eating disorder went into remission and resurfaced later in life;
- those whose disorder emerged later in life “tardive” anorexics (controversial)

Stressors include - ‘empty nest’, divorce, loss of parents, widowhood, retirement, chronic illness/disability, death of an adult child, and growing old/facing mortality



Less likely to have disturbed body image and preoccupation with weight, eating, and shape

More likely to exhibit persistent depressed mood

Screening

Malnutrition – MUST
Malnutrition Universal Screening Tool

Eating disorder - SCOFF

Depression – Geriatric Depression Scale (GDS)
Hospital Anxiety and Depression Scale (HADS)

Table 2. SCOFF screening questionnaire for eating disorders*
100% sensitive if two or more positive:

Do you make yourself **S**ick because you feel uncomfortably full?

Do you worry you have lost **C**ontrol over how much you eat?

Have you recently lost more than **O**ne stone (14 pounds)* in a 3-month period?

Do you believe yourself to be **F**at when others say you are too thin?

Would you say that **F**ood dominates your life?

*6.36 kg

Reproduced from the SCOFF questionnaire: assessment of a new screening tool for eating disorders (Morgan *et al.*, 1999)

Management of disordered eating

Treat the underlying cause - often **multifactorial**

CCK signal may be reduced
by limiting the intake of fats and proteins.

Identify and treat depression, eating disorders

Stop anorexigenic medication

Small meals, improved appearance, flavour, texture etc

Avoid appetite stimulants

Eating disorders – therapy focussed on loss, bereavement, adjusting to age

Artificial feeding – PEG (physical cause prevention oral intake) Ng (if there is a treatable or reversible cause)

PEGs and NGs not recommended in dementia as there is no evidence to support their use.

Legal issues

An adult with capacity has the right to choose whether to eat or not.

However, if the patient is detained under the Mental Health Act 1983 s/he cedes a range of autonomies that may include the autonomy to refuse food or fluid. Section 63 (medical treatment) allows intervention against the patients will if food refusal is a symptom, consequence or prevents treatment of the mental disorder.

Similarly, if a patient lacks the capacity to refuse food or fluid, s/he will ordinarily cede this specific autonomy under Mental Capacity Act 2005 powers. However, there are exceptions to this (eg a valid Advance Decision to refuse food/fluids).

Restraint may need to be used as a last resort.

The management of fluid and food refusal can be ethically and legally complex

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