

# Workshop – Nutrition Screening

Heather Rosa, Dean FBANT FHEA Dip.ION



# Quick visual assessment of nutritional status

B vitamins –  
including B12

Iron

Fat soluble  
vitamins –including  
vitamin A and EFAs

# Stages in the Development of a Nutrient Deficiency

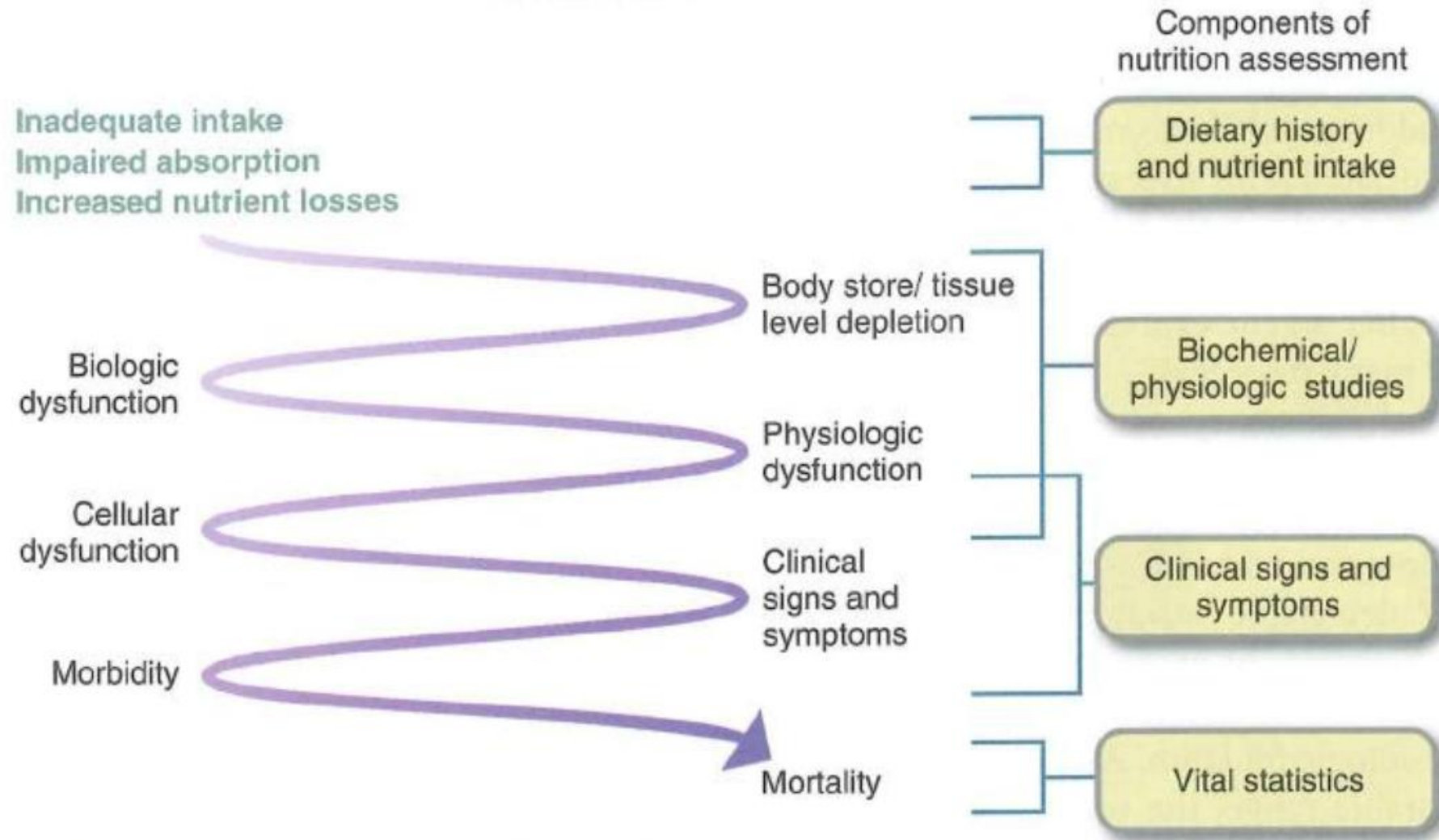
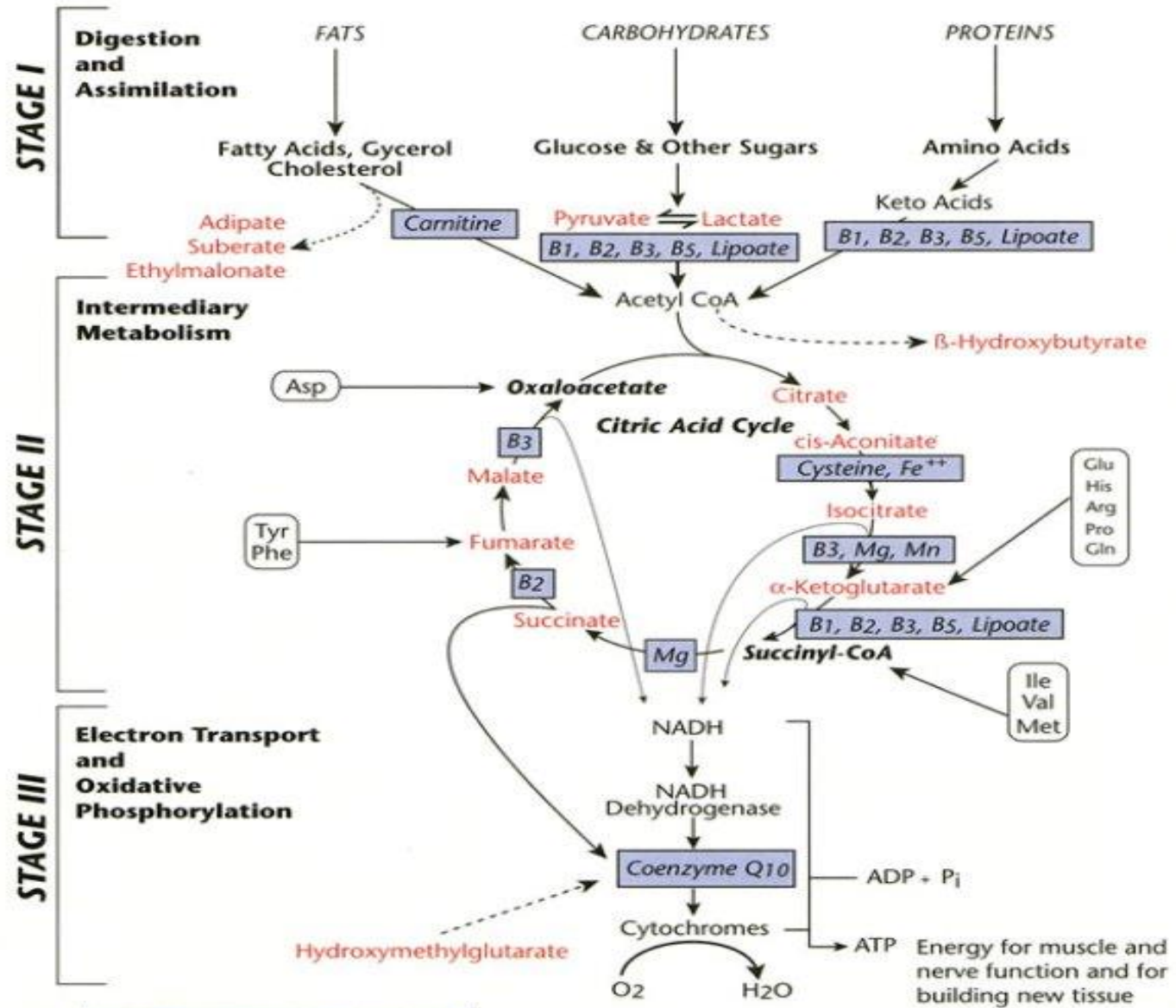


Figure 4-2 Development of clinical nutritional deficiency with corresponding dietary, biochemical and clinical evaluations. *Krause's Food and the Nutrition Care Process 13<sup>th</sup> ed.* L.Mahan, S. Escott-Stump, J. Ramond p 132.

# Appearance Energy



Note: Vitamin & mineral requirements for cofactors are shown in light blue box. Elevations of metabolites before these steps indicate functional deficit of the nutrients.

Compounds Reported in ION™ Profile are Printed in Red

# Leukonychia



# Nails



## Kolonychia



**Spoon nail**

# Eyes

## Anaemia



**Fig. 2** Digital photographs of the palpebral conjunctiva of four patients with hemoglobin concentrations of (a) 7.3, (b) 12.7, (c) 14.0, and (d) 14.5 g/dL.

# Tongue - normal

Light red / salmon pink

Thin white moist coating.

Uniform surface - no  
cracks





# Tongue

Usually first tissue to show signs of sub– optimal nutrition

- glossitis with atrophy of papillae
- fissures
- burning and tingling
- ulcers
- coatings

# Tongue



Geographic

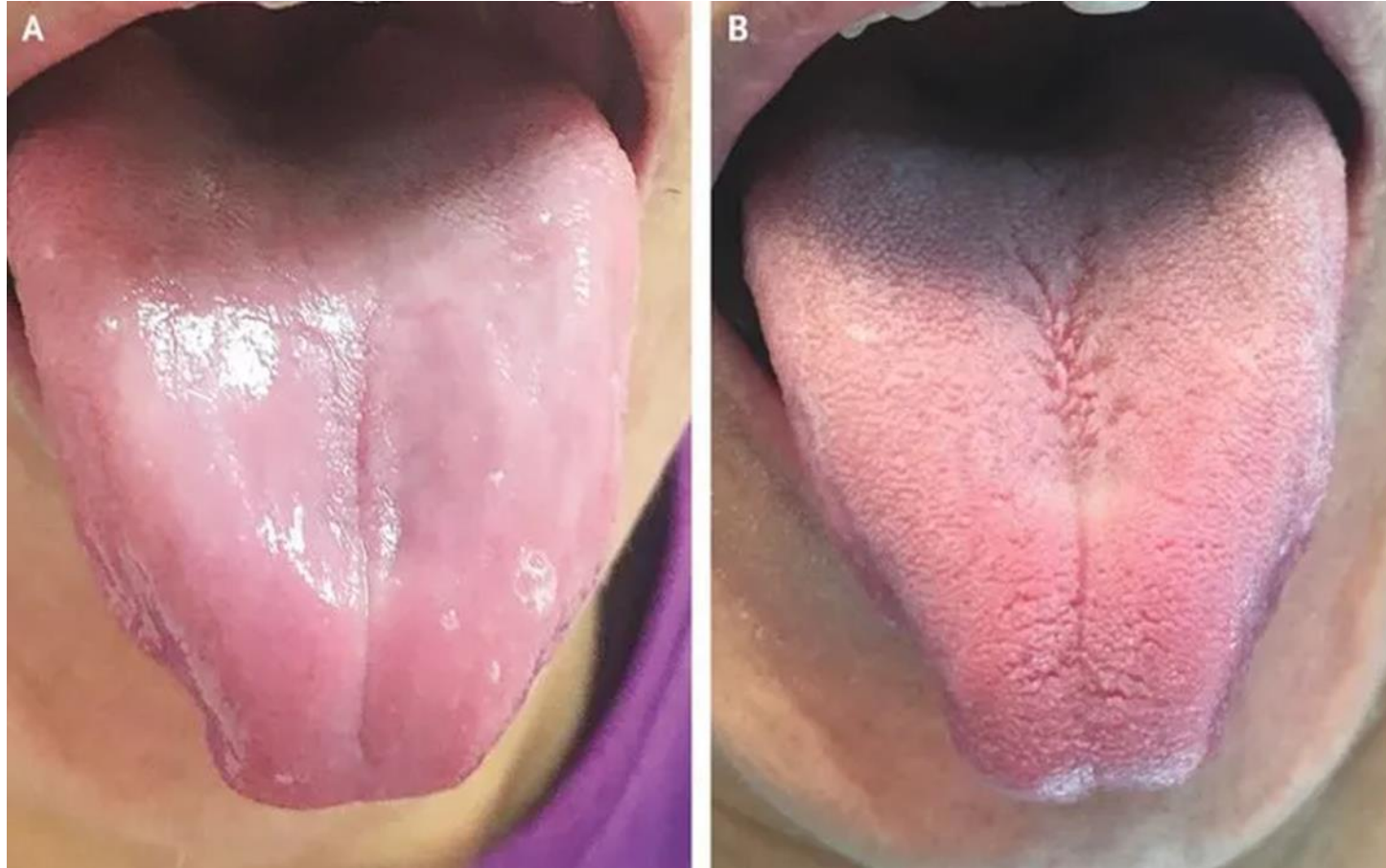


Glossitis



Crenated

# Pernicious anaemia B12



# Lips

## Cheilosis and angular stomatitis



# Mouth

Mouth	Possible deficiency	Possible other causes
Sore tongue	Iron, vitamin B12, B2, B3 and possibly other B vitamins	Excessively hot drinks and oral disease
Cracking and peeling of skin on the lips	Vitamin B2 – riboflavin	Excessive exposure to cold or windy weather
Cracking at the corners of the mouth	Iron, vitamin B2 – riboflavin possibly other B vitamins	Poorly fitting dentures, eczema infection with candida albicans
Recurrent mouth ulcers	Iron, vitamin B12, folate and possibly other B vitamins	Coeliac disease, Crohn's disease recurrent herpes and oral disease
Enlarged veins under the tongue with micro-haemorrhages	Vitamin C	Smoking and old age
Smooth, shiny and sore tongue: atrophic glossitis	Iron, vitamin B12 and folate	

# Skin

## Scurvy



## Keratosis pilaris



## Phrynoderma



# Aswell Chart

[https://www.researchgate.net/publication/28474601\\_Charts\\_Based\\_on\\_Body\\_Mass\\_Index\\_and\\_Waist-to-Height\\_Ratio\\_to\\_Assess\\_the\\_Health\\_Risks\\_of\\_Obesity\\_A\\_Review/figures?lo=1](https://www.researchgate.net/publication/28474601_Charts_Based_on_Body_Mass_Index_and_Waist-to-Height_Ratio_to_Assess_the_Health_Risks_of_Obesity_A_Review/figures?lo=1)

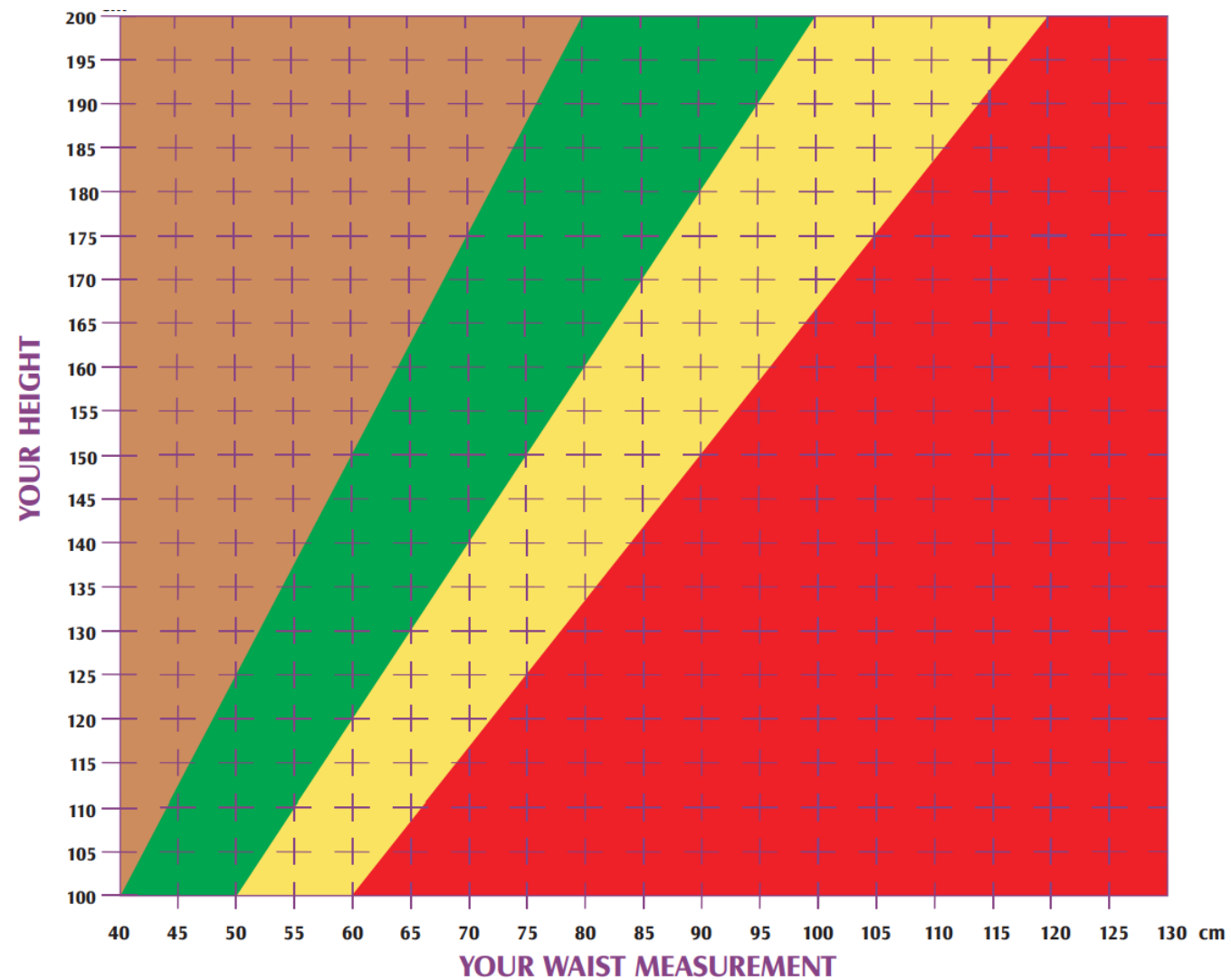


Fig. (1). The Ashwell® Shape Chart based on waist-to-height ratio. (Copyright is held by Margaret Ashwell).

The Ashwell® Shape Chart is suitable for adults (men and women) and children over 5y. It has waist circumference measurement (cm) on  $x$  axis and height (cm) on the  $y$  axis. The boundary values for waist-to-height ratio are set at WHtR 0.4 (brown to green), 0.5 (green to yellow) and 0.6 (yellow to red). The Green area indicates OK; Yellow area indicates Consider Action for adults and Take Action for children; Red area indicates Take Action. Brown area indicates Take Care – you will not need to decrease your waist circumference and might even be underweight.

## References & Resources

Stewart Nutrition [http://www.stewartnutrition.co.uk/nutritional\\_assesment/nutritional\\_tests.html](http://www.stewartnutrition.co.uk/nutritional_assesment/nutritional_tests.html)

Kesari A; Noel JY. (2023) Nutritional Assessment. StatPearls [Internet]. <https://www.ncbi.nlm.nih.gov/books/NBK580496/>

Mind the Gap <https://www.blackandbrownskin.co.uk/mindthegap>

Nsight - <https://www.ifm.org/learning-center/nsight/> - a resource for information about how to perform clinical exams through a nutritional lens. A range of videos are available for you to view.

Linus Pauling Institute (2011) Micronutrients and Skin Health (online)

Medscape <https://www.medscape.com/dermatology>

Dermnet <https://dermnetnz.org/>



# Institute for Optimum Nutrition

0208 614 7800 | [info@ion.ac.uk](mailto:info@ion.ac.uk) | [www.ion.ac.uk](http://www.ion.ac.uk)  
Ambassador House, Paradise Road, Richmond, TW9 1SQ



[ion\\_nutrition](https://twitter.com/ion_nutrition)



[ion\\_nutrition](https://www.instagram.com/ion_nutrition)



[instituteformaximumnutrition](https://www.facebook.com/instituteformaximumnutrition)



[instituteformaximumnutrition](https://www.linkedin.com/company/instituteformaximumnutrition)