

Nutrition-Focused Physical Exam Cheat Sheet For Micronutrients (mostly)

Body System	Healthy	Abnormal	Significance of abnormal
Hair ^{1,2}	Normal distribution, shiny	Thin, dull, dry, brittle, corkscrew Hair Loss	Chemo, protein/ biotin deficiency Vitamin C Deficiency Deficiency in iron, vitamin D, zinc, or selenium
Eyes ¹	Bright, clear, pink conjunctiva	Sunken, dull, pale, dry conjunctiva, light sensitivity	Deficiency of vitamin A, zinc, riboflavin
Lips ^{1,5}	Moist, good color	Swollen, dry, cracked, red, cracks in corners of mouth, ulcers in mouth	Deficiency riboflavin, pyridoxine, niacin, thiamine, B12, iron
Gums ¹	Pink, firm	Sore, spongy, red, swollen, bleed easily	Deficiency Vitamin C
Tongue ^{1,5}	Pink, presence of papillae	Purple, white or gray coating, smooth, slick, inflamed/ painful	Deficiency riboflavin, pyridoxine, folate, niacin, vitamin B12, iron
Skin ¹	Smooth slightly moist, good color	Pale, scaly, dry, bruises easily, pressure ulcers, dermatitis	Deficiency iron, vitamin A/C, zinc, fatty acid, protein; excess niacin
Legs ¹	Well developed, firm musculature	Calf tenderness, flaccid muscles, pain, edema, bone or joint pain	Deficiency protein, vitamin A/C/D, calcium
Nails ^{1,3,4} (shows nutrition for the past 6 months)	Smooth Note: nails exposed frequently to water/soap may be soft or tear easily such as from frequent hand washing, doing dishes, frequent manicures.	<ul style="list-style-type: none"> • Brittle nails • Soft or weak nails • Peeling • Ridges- horizontal • Ridges- vertical/ nail splitting • Horizontal white bands • Half-moons disappear • Spoon-shaped nails • Nails separating from the nail bed • Dark spots/thick lines on nails (hyperpigmentation) • Splinter hemorrhages (very thin dark lines) 	<ul style="list-style-type: none"> • Hypothyroid, Deficiency iron, zinc • Deficiency Vitamin D, A, B vitamins, calcium, iron, fatty acids • Deficiency iron • Kidney disease, zinc Deficiency • Deficiency iron, calcium • Deficiency calcium, zinc, riboflavin; chemotherapy • Depression, anemia, malnutrition (not everyone has them, but if they lose them that is significant) • Hypochromic anemia, Deficiency iron, vitamin C, malnutrition • Deficiency calcium, iron • Deficiency B12 • Deficiency vitamin C

Nutrition-Focused Physical Exam Cheat Sheet For Micronutrients (mostly)

How to use this guide

Malnutrition is often considered from a protein malnutrition side. This guide is more focused on helping you assess for micronutrient deficiency by looking at patterns in symptoms to better identify how to support your patient's health. It can provide signposts so you better know where you might look to help resolve symptoms. Other points of data can validate your nutrition diagnosis. You can use:

- 3-day food log to estimate intake vs estimated need
- Medications which may impact nutrient status
- Health history- diseases/ conditions which may indicate an increased nutrient need or increased risk for Deficiency
- Lab tests of vitamins/ minerals (which on their own, may not be accurate but with additional points of data can be helpful)

References

1. Width M, Reinhard T. The Clinical Dietitian's Essential Pocket Guide. 1st Ed 2009. Lippincott Williams and Wilkins. Baltimore Maryland
2. These vitamin Deficiencyiciencies can cause hair loss. WebMD.
<https://www.webmd.com/connect-to-care/hair-loss/vitamin-Deficiencyiciencies-that-can-cause-hair-loss> Accessed 1/4/22
3. Cobb C. From ridges to peeling: what these 8 fingernail signs say about your health. 2021.
<https://www.healthline.com/health/beauty-skin-care/healthy-nails> Accessed 1/4/22
4. Seshadri D, De D. Nails in nutritional Deficiencyiciencies. *Indian Journal of dermatology, Venereology, and Leprology*. 2012;78(3):237-441. DOI:10.4103/0378-6323.95437
5. Sheetal A, Hiremath V, Patil A, Sajjansetty S, Kumar S. Malnutrition and its oral outcome- A review. *J Clin Diagn Res*. 2013;7(1):178-180. doi: [10.7860/JCDR/2012/5104.2702](https://doi.org/10.7860/JCDR/2012/5104.2702)