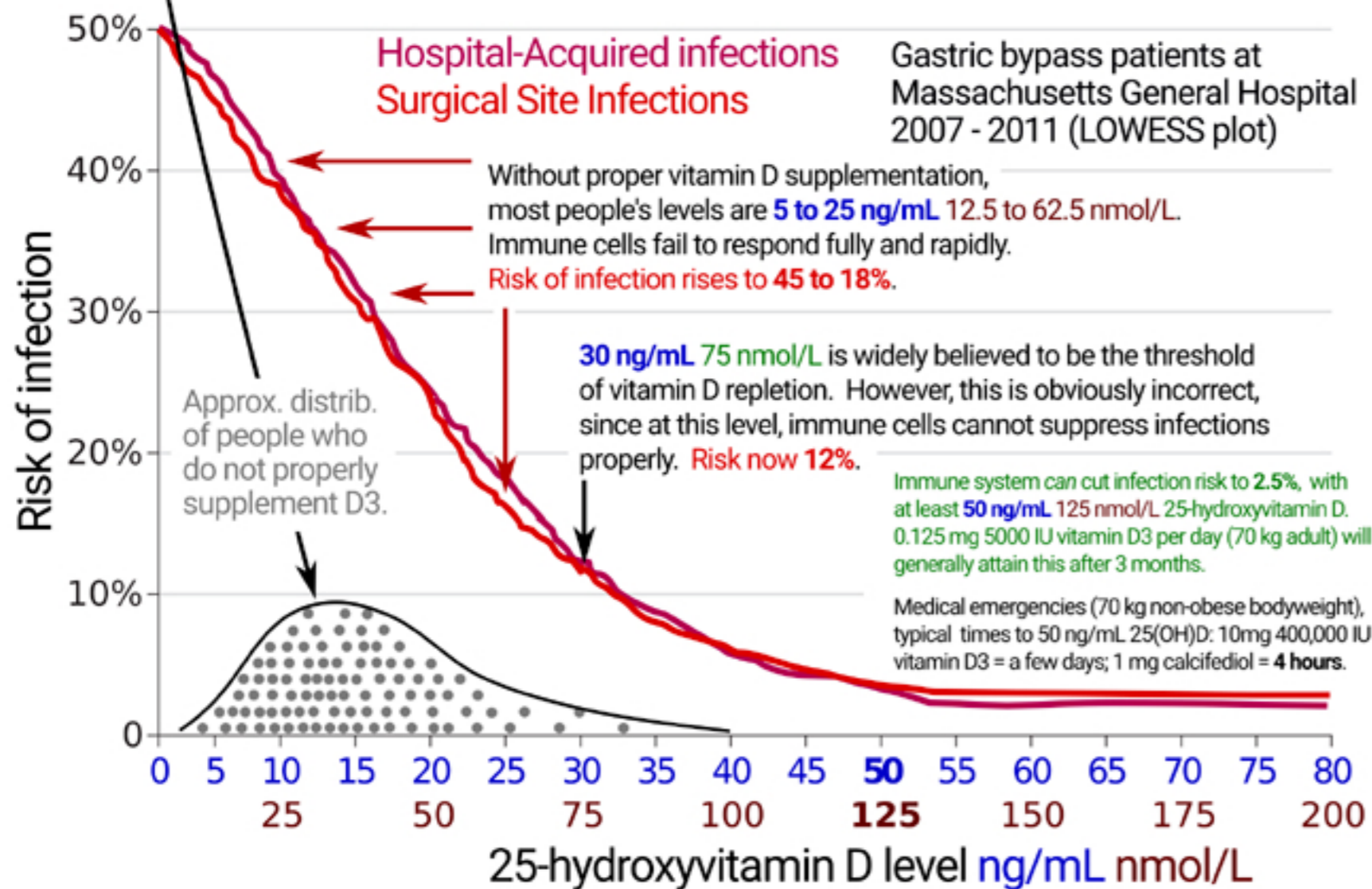


Most UK citizens have weakened innate and adaptive immune responses and are more prone to hyper-inflammatory immune dysregulation because their 25-hydroxyvitamin D levels are 1/2 to 1/10th of the **50 ng/mL 125 nmol/L** their immune systems need to function properly.

This is because they do not properly supplement vitamin D3 sufficiently - e.g. for 70 kg bodyweight: 0.125 mg 5000 IU / day. There is very little D3 in food or multivitamins. D3 is produced in the skin from direct exposure to high-elevation sunlight, but the UK is far from the equator, so this only occurs in summer. People with melanin-rich skin and/or sun-avoidant lifestyles are particularly at risk. Arabic women in sunny Israel have a median 25(OH)D level of just **12 ng/mL 30 nmol/L** - and some have below **4 ng/ml 10 nmol/L\***.



Graph adapted from Association Between Preoperative 25-Hydroxyvitamin D Level and Hospital-Acquired Infections Following Roux-en-Y Gastric Bypass Surgery Sadeq A. Quraishi et al. 2014 [jamanetwork.com/journals/jamasurgery/fullarticle/1782085](https://jamanetwork.com/journals/jamasurgery/fullarticle/1782085)

\* Israel et al. 2020 [medrxiv.org/content/10.1101/2020.09.04.20188268](https://medrxiv.org/content/10.1101/2020.09.04.20188268)

Immune cells need at least **50 ng/mL 125 nmol/L** circulating 25-hydroxyvitamin D for their intracrine (inside each cell, also known, less accurately, as *autocrine*) and paracrine (to nearby cells) signaling systems. The ability of the individual cells to respond to their changing circumstances depends on these systems. Innate, adaptive (antibodies) and inflammation-regulating aspects of the immune system only work fully and rapidly when they are supplied with at least **50 ng/ml 125 nmol/L** 25(OH)D. [vitamindstopscovid.info/02-intracrine/](https://vitamindstopscovid.info/02-intracrine/)

Robin Whittle June 2022 [nutritionmatters.substack.com](https://nutritionmatters.substack.com)

### Association Between Preoperative 25-Hydroxyvitamin D Level and Hospital-Acquired Infections Following Roux-en-Y Gastric Bypass Surgery

Sadeq A. **Quraishi**, MD, MHA; Edward A. Bittner, MD, PhD; Livnat Blum, BA; Mathew M. Hutter, MD, MPH; Carlos A. Camargo Jr, MD, DrPH

JAMA Surg. **2014**;149(2):112-118 (Actually published on **2013**-11-23)

<https://jamanetwork.com/journals/jamasurgery/fullarticle/1782085>

<https://jamanetwork.com/journals/jamasurgery/articlepdf/1782085/soi130062.pdf>

These two similar graphs depicting low pre-operative 25-hydroxyvitamin D levels driving immune system failure, which leads to greatly elevated risk of post-operative infections, are from **arguably the most important and easy-to-understand research study on the importance of good 25-hydroxyvitamin D levels for the immune system.**

This is from a Boston hospital, showing the risk of primarily bacterial infections rises precipitously from about 2.5% (for both hospital-acquired and surgical-site infections) according to how much below 125 nmol/L (50 ng/mL) their pre-operative level of 25-hydroxyvitamin D was.

**The risk of each type of infection multiplies by a factor of 5 to about 25% when levels are 50 nmol/L (20 ng/mL). This is the official threshold of vitamin D sufficiency in the UK.**

**Many UK adults and children have still lower levels, such as 12.5 to 25 nmol/L (5 to 10 ng/mL),** and so, for all their lives, are at great risk of suffering and harm, due to their immune systems being unable to function anywhere near as well as they would with proper vitamin D3 supplementation.

The patients in this study were all morbidly obese and underwent the same Roux-en-Y gastric bypass operation, which is a complex surgery intended to help with weight loss. There is no reason to believe that people suffering from obesity require higher 25-hydroxyvitamin D levels for proper immune system function than do those who are not suffering from obesity.

Please see the research articles on vitamin D and the immune system which are cited and discussed at <https://vitamindstopscovid.info/00-evi/>, a submission to a UK government inquiry, co-signed by Patrick Chambers MD (Hawaii). New Jersey based Professor of Medicine, Sunil Wimalawansa recommends, for 70 kg body weight, 0.125 mg (5000 IU) vitamin D3 / day to attain, over several months, the 50 ng/mL 125 nmol/L circulating 25-hydroxyvitamin D the immune system needs to function properly.