

VITAMIN B12 DEFICIENCY SIGNS & SYMPTOMS



The list of potential signs & symptoms of vitamin B12 deficiency/Pernicious Anaemia is endless, however we have created the following lists as a helpful guide for health professionals, patients and the wider community.

Please visit our website for further information.

NEUROLOGICAL SIGNS & SYMPTOMS

- **Abnormal gait and difficulty walking**
- **Abnormal reflexes**
- **Auditory hallucinations (hearing sounds)**
- **Balance issues, co-ordination and speech issues, falls (Ataxia)** <https://www.nhs.uk/conditions/ataxia/>
- **Bowel and bladder incontinence** <https://pubmed.ncbi.nlm.nih.gov/19153635/>
- **Chronic, persistent cough** [https://journal.chestnet.org/article/S0012-3692\(16\)48288-7/abstract](https://journal.chestnet.org/article/S0012-3692(16)48288-7/abstract)
- **Dementia** <https://www.hindawi.com/journals/crinm/2016/4301769/>
- **Disorientation**
- **Dizziness**
- **Disturbance in taste and smell**
https://www.researchgate.net/publication/301686832_Effect_of_vitamin_B12_deficiency_on_olfactory_function
- **Facial Pain** https://fpa-support.org/neuropathic-facial-pain-vitamin-b-12-myelin/?fbclid=IwAR3G0zxXofIL9Ft_5cFh08v8bWalh2TPY5X8geBr1-I0INBg8zP_aHHWIZA
- **Forgetfulness, disorientation**
- **Impaired pain perception**
- **Impaired vibration and position sense**
- **Involuntary movements (Chorea)** <https://pubmed.ncbi.nlm.nih.gov/24852503/>
- **Memory loss, brain fog**
- **Muscular stiffness, tightness**
- **Optic decline, blurred or decreased vision, damage of optic nerve, dry or watery eyes twitching and fluttering, sensitivity to light** <https://pubmed.ncbi.nlm.nih.gov/28299439/>
<https://www.omicsonline.org/open-access/vitamin-b12-deficiency-as-a-first-sign-of-acquired-horizontal-pandular-nystagmus-2314-7326-1000168.php?aid=41848>
- **Tingling, pain, burning sensation, numbness in hands and feet**
https://www.researchgate.net/publication/320507308_The_histopathological_evaluation_of_small_fiber_neuropathy_in_patients_with_vitamin_B12_deficiency
- **Tinnitus** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4918681/>
- **Tremor, foot drop**
- **Restless legs and nocturnal cramping**
- **Weakness in limbs, arms, legs, torso**



NEUROPSYCHIATRIC SIGNS & SYMPTOMS

- **Aggressive or violent behaviour** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3067987/>
- **Anxiety**
- **Anti-social behaviour**
- **Apathy (lack of interest or motivation)**
<https://neuro.psychiatryonline.org/doi/full/10.1176/appi.neuropsych.12060144#:~:text=Psychiatric%20manifestations%20of%20vitamin%20B,catatonia%2C%20delirium%2C%20and%20hallucinations.&text=Higher%20vitamin%20B12%20levels,more%20favorable%20outcome%20in%20depression.>
- **Cognitive dysfunction**
- **Delusion**
- **Depression**
https://journals.sagepub.com/doi/abs/10.1177/0269881105048899?fbclid=IwAR2rc3vjd8Wpifn9UHADVUvBXyQib339ufZOigq_ZEJ9HAX1goJHsk_ylZ8&
- **Disorientation (mental confusion)**
- **Hallucinations** <https://europepmc.org/article/med/26345354>
- **Inappropriate sexual behaviour**
- **Insomnia and sleep disturbances**
- **Irritability**
- **Mania** <https://pubmed.ncbi.nlm.nih.gov/15029091/>
- **Memory Loss**
- **Paranoia** <https://stichtingb12tekort.nl/wetenschap/stichting-b12-tekort-artikelen/english/neuropsychiatric-symptoms-of-b12-deficiency/>
- **Personality changes**
- **Post natal depression**
- **Psychosis (loosing contact with reality)**
<https://www.sciencedirect.com/science/article/abs/pii/S0924933817315729>
- **Suicidal ideation (suicidal thoughts)**
- **Schizophrenic symptoms**



HAEMATOLOGICAL SIGNS & SYMPTOMS

- Anaemia
- Breathlessness
- Chronic fatigue
- Hyper segmented neutrophils (the presence of hypersegmented neutrophils is an important diagnostic feature of megaloblastic anemia)

[https://www.labce.com/spg1998426_conditions_associated_with_hypersegmented_neutrophil.aspx#:~:text=Hypersegmented%20neutrophils%20may%20be%20seen,deficiency%20\(including%20pernicious%20anemia](https://www.labce.com/spg1998426_conditions_associated_with_hypersegmented_neutrophil.aspx#:~:text=Hypersegmented%20neutrophils%20may%20be%20seen,deficiency%20(including%20pernicious%20anemia)

- Macrocytosis (enlarged red blood cells)
- Pallor, jaundice
- Weakness and fatigue

VASCULAR SIGNS & SYMPTOMS

- Bruising - (Vasculitis)
- Cerebral vascular accident - CVA (stroke)
<https://www.ahajournals.org/doi/pdf/10.1161/STROKEAHA.107.486068>
- Deep vein thrombosis - DVT (blood clot in the leg or arm) <https://pubmed.ncbi.nlm.nih.gov/17908667/>
- Myocardial infarction (heart attack) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4379639/>
- Occlusive vascular disorder (blockage or narrowing of an artery in the legs, or rarely the arms)
- Orthostatic hypotension, postural hypotension (low blood pressure on standing)
https://www.sciencedirect.com/science/article/abs/pii/S1566070201003939?fbclid=IwAR0ZTA2yPxsSFWIxeAaiBOEbCpz7b-kze_qfGnCXQKg3upFpe00u7EyFgqE
- Palpitations
- Postural orthostatic tachycardia - POTS (an abnormal increase in heart rate that occurs after sitting up or standing)
https://www.researchgate.net/publication/259456650_Postural_Orthostatic_Tachycardia_Syndrome_POTS_and_Vitamin_B-12_Deficiency_in_Adolescents/link/564cb47008ae7ac727e20d5f/download
- Transient ischemic attacks - TIA (or mini stroke) <https://pubmed.ncbi.nlm.nih.gov/17885260/>



GASTROINTESTINAL SIGNS & SYMPTOMS

- **Constipation**
- **Diverticulitis** <https://www.sciencedirect.com/science/article/abs/pii/S0002934357902358>
- **Epigastric pain (poor digestion, a bloated feeling after eating small or normal sized meals)**
- **Gastric reflux (GERD)**
- **Irritable bowel syndrome (IBS)**
- **Loss of appetite, anorexia and weight loss** <https://www.semanticscholar.org/paper/Sensory-Neuronopathy-Revealing-Severe-Vitamin-B12-a-Franques-Chiche/a1a1bf82d7b18d6b30543c0aa13304209005ef35>
- **Malabsorption issues**
- **Mouth ulcers** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1479540/>
- **Gastric reflux (GERD)**
- **Irritable bowel syndrome (IBS)**
- **Loss of appetite, anorexia and weight loss** <https://www.semanticscholar.org/paper/Sensory-Neuronopathy-Revealing-Severe-Vitamin-B12-a-Franques-Chiche/a1a1bf82d7b18d6b30543c0aa13304209005ef35>
- **Malabsorption issues**
- **Mouth ulcers** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1479540/>

GENDER SPECIFIC SIGNS & SYMPTOMS - FEMALE

- **Abnormal PAP smears** <https://pubmed.ncbi.nlm.nih.gov/18179156/>
- **Heavy or irregular periods**
- **Infertility** <https://pubmed.ncbi.nlm.nih.gov/11304860/>
- **Intrauterine growth retardation (refers to a condition in which an unborn baby is smaller than it should be)**
- **Prone to UTIs**
- **Recurrent miscarriage** <https://pubmed.ncbi.nlm.nih.gov/11304860/>

GENDER SPECIFIC SIGNS & SYMPTOMS - MALE

- **Infertility** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3372894/>
- **Impotence**
- **Low sperm count** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5485731/>
- **Low sperm motility** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5485731/>
- **Premature Ejaculation** <https://pubmed.ncbi.nlm.nih.gov/27681841/>

VITAMIN B12 DEFICIENCY SIGNS & SYMPTOMS



OTHER COMMON SIGNS & SYMPTOMS

- **Air hunger (Dyspnea)** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6251779/>
- **Chronic Fatigue Syndrome (CFS)** https://www.drmyhill.co.uk/drmyhill/index.php?title=B12_-_rationale_for_using_vitamin_B12_in_CFS&fbclid=IwAR1sUpPBMJI5G_5Q6KDLuTZinzYBh6v_LBlnAY57wEmcBPSeeARQoLPmsi8
- **Chronic pain disorder** https://n.neurology.org/content/84/14_Supplement/P3.307
- **Compromised immune system, prone to catch infections**
- **Dental, gum issues** <https://pubmed.ncbi.nlm.nih.gov/26613385/>
- **Difficulty swallowing (Dysphagia)** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6251779/>
- **Difficulty recalling words or names (Nominal Dysphasia)**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6277171/>
- **Dry cracked corners of the mouth (Angular Cheilitis, Stomatitis)**
- **Dry skin and nails**
- **Enlarged spleen (Splenomegaly)** <https://pubmed.ncbi.nlm.nih.gov/18221385/>
- **Fainting/light headedness**
- **Joint inflammation and pain**
- **Hair loss (Alopecia)**
- **Heat and cold intolerance (night sweats)**
<https://www.bmj.com/content/349/bmj.g5226/rr/763802?fbclid=IwAR1deFIHQ79BS0uXwv2m2mOvK3vrjwO-qoTauUth7kjQkDs6S5ccg-YItMA>
- **Itching**
- **Malnutrition**
- **Osteoporosis, fractures (weak, brittle bones)**
<https://pubmed.ncbi.nlm.nih.gov/8159105/#:~:text=Pernicious%20anemia%20has%20recently%20been,fracture%20incidence%20is%20not%20known>
- **Poor wound healing**
- **Premature greying**
- **Seizures**
- **Sighing**
- **Skin hyper pigmentation or hypo pigmentation** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2294086/>
- **Skin lesions**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2294086/#:~:text=Skin%20lesions%20associated%20with%20vitamin,cause%20of%20vitamin%20B12%20deficiency>
- **Suppressed activity of osteoblasts (cells that build bone)** <https://pubmed.ncbi.nlm.nih.gov/8969275/>
- **Swollen, beefy red, sore or geographic tongue (glossitis)** <https://pubmed.ncbi.nlm.nih.gov/17209796/>
- **Symptoms similar to Parkinson's Disease, Alzheimer and Multiple sclerosis (MS)**
https://www.bmj.com/content/349/bmj.g4433/rr/761349?fbclid=IwAR3uGx3Ckdl9yYjunGz7-iff58fPUC9_K83VkOXAajQnriss9BjrezxsGJs
- **Tension headaches** <https://www.sciencedirect.com/science/article/abs/pii/S0753332218312058>
- **Vitiligo** [https://www.jaad.org/article/S0190-9622\(18\)32483-6/pdf](https://www.jaad.org/article/S0190-9622(18)32483-6/pdf)