

- Vitamin A supplements, 96e-7
 for bladder cancer prevention, 575
 for measles treatment, 1298
 for olfactory dysfunction, 216
- Vitamin B₁. *See* Thiamine
- Vitamin B₂. *See* Riboflavin
- Vitamin B₃. *See* Niacin
- Vitamin B₅. *See* Pantothenic acid
- Vitamin B₆. *See* Pyridoxine
- Vitamin B₁₂. *See* Cobalamin
- Vitamin B_{12A}. *See* Hydroxocobalamin (vitamin B_{12A})
- Vitamin C, **96e-5**
 absorption of, 96e-5
 deficiency of, 96e-1t, 96e-5, 236, 461, 463t. *See also* Scurvy
 dietary sources of, 96e-5
 functions of, 96e-3f, 96e-5, 367
 for macular degeneration, 205
 parenteral requirement for, 98e-5t
 recommended intake of, 95e-2t
 reference range for, 2766t
 structure of, 96e-3f
 supplements, 96e-5, 1867, 2237
 toxicity of, 96e-5
- Vitamin D, **96e-7, 2463**
 beneficial effects of, 387
 deficiency of. *See* Vitamin D deficiency
 functions of, 96e-3f, 96e-7
 for hypocalcemia, 2488
 for hypoparathyroidism, 2484
 malabsorption of, surgery-related, 1927
 metabolism of, 2463–2464, 2464f
 parenteral requirement for, 98e-5t
 photochemistry of, 387
 recommended intake of, 95e-2t
 reference range for, 2766t
 resistance to, 315, 2485
 sources of, 96e-7
 structure of, 96e-3f
 supplements. *See* Vitamin D supplements
 synthesis of, 387, 2463–2464, 2463f
 toxicity of, 96e-8, 2477
- Vitamin D deficiency
 anticonvulsants and, 2485
 asthma due to, 1670
 clinical features of, 96e-1t, 463t, 2465
 diagnosis of, 315, 2465–2466
 in elderly, 75, 2465
 etiology of, 2465, 2465t
 genetic considerations in, 2465
 global considerations in, 315
 hypocalcemia and, 314, 2485
 hypomagnesemia and, 2462
 intestinal disease and, 2465
 muscle weakness in, 462e-19
 nonskeletal disease and, 96e-7
 oral manifestations of, 236
 osteomalacia due to. *See* Osteomalacia
 osteoporosis and, 2491
 prevalence of, 2254t
 rickets due to. *See* Rickets
 risk factors for, 96e-1t, 96e-7
 screening/testing for, 2254t
 treatment of, 96e-8, 315, 461, 2462, 2466
 in women, 6e-4
- Vitamin D receptor (VDR), 2464–2465
- Vitamin D supplements, 96e-8
 in elderly, 29t, 75, 80, 84
 for hypocalcemia, 315
 for MS, 2671
 for osteoporosis prevention/management, 2383, 2497
 for psoriasis, 354t
 for vitamin D deficiency, 2466
- Vitamin E, **96e-8**
 absorption of, 96e-8
 deficiency of. *See* Vitamin E deficiency
 dietary sources of, 96e-8
 functions of, 96e-3f, 96e-8
 for macular degeneration, 205
 metabolism of, 96e-8
 for NALFD, 2057
 parenteral requirement for, 98e-5t
 recommended intake of, 95e-2t, 96e-8
 reference range for, 2766t
 structure of, 96e-3f
 supplements. *See* Vitamin E supplements
 toxicity of, 96e-8
- Vitamin E deficiency
 ataxic disorders in, 2630
 clinical features of, 96e-1t, 96e-8, 462e-19
 diagnosis of, 2690
 familial, 96e-8, 451e-2t, 2690
 neuropathies in, 462e-19, 2690
 risk factors for, 96e-1t, 96e-8
 treatment of, 96e-8, 2690
- Vitamin E supplements
 adverse effects of, 403
 for dysmenorrhea, 338
 for menopausal symptoms, 2383
- Vitamin K, **96e-8**
 deficiency of. *See* Vitamin K deficiency
 dietary sources of, 96e-8
 functions of, 96e-3f, 96e-8, 738
 high-dose, for hepatocellular carcinoma, 551
 metabolism of, 736, 736f
 parenteral requirement for, 98e-5t
 recommended intake of, 95e-2t
 reference range for, 2766t
 in specialized nutritional support formulas, 98e-6–7
 structure of, 96e-3f
 supplements. *See* Vitamin K supplements
 toxicity of, 96e-9
 for warfarin necrosis, 379
- Vitamin K antagonists, 754. *See also* Warfarin
- Vitamin K cycle, 736f, 754
- Vitamin K deficiency, **738**
 bleeding in, 403
 clinical features of, 96e-1t, 96e-8, 463t
 etiology of, 738
 risk factors for, 96e-1t, 96e-8
 treatment of, 738–739
- Vitamin K epoxide reductase (VKOR), 736, 754
- Vitamin K supplements, 96e-8–9
 for coagulation disorders in liver disease, 739, 2067
 for neonates, 738
 for osteoporosis management/prevention, 2497
 for warfarin-induced bleeding, 756
- Vitiligo
 APS-2 and, 2347t
 clinical features of, 76e-3f, 341t, 344f, 357t, 358t
 diagnosis of, 343–344, 358t
 disorders associated with, 357, 2430
 inflammasome activity in, 372e-8t
 pathophysiology of, 358t, 372e-24t
 treatment of, 358t, 391
- Vitreous disorders, 204
- Vittiforma* spp., 1408
- VKORC1 polymorphisms, warfarin dose requirements and, 39t, 41, 755, 755t
- VLA-4, 89e-1
- VLDLs. *See* Very-low-density lipoproteins (VLDLs)
- VNTRs (Variable number of tandem repeats), 441
- Vocal tic, 2623
- VODI (venoocclusive disease with immunodeficiency) syndrome (Sp110 deficiency), 375e-2, 2110
- Voglibose, 2414t
- Vogt-Koyanagi-Harada syndrome, 357, 357t, 359, 909t
- Voiding cystourethrography, 1872, 1873
- Volume of distribution (V_d), 34, 935
- Voluntary active euthanasia, 67t
- Volutrauma, ventilator-induced, 1731
- Volvulus, 1892, 1894f, 1982, 1985
- Vomiting. *See also* Nausea and vomiting
 in acute cholecystitis, 2080
 after head injury, 457e-4
 in alcohol use disorder, 2091
 definition of, 258
 in gastroenteritis. *See* Gastroenteritis
 hypokalemia in, 307
- hyponatremia in, 298
 hypovolemia in, 298
 in intestinal obstruction, 1983
 Mallory-Weiss tear following. *See* Mallory-Weiss tears
 mechanisms of, 258
 metabolic alkalosis in, 321
 water loss in, 95e-1
- von Gierke's disease (glucose-6-phosphatase deficiency; type I GSD), 433e-1, 433e-2t, 433e-3, 436e-5f
- von Hippel-Lindau disease/syndrome
 clinical features of, **2342**
 CNS tumors, 451e-2t, 599t, 1850t
 hypertension, 1620t
 neuroendocrine tumors, 562
 pheochromocytoma, 2332, 2333f
 pNETs, 562, 562t
 renal, 578, 1850t, 1854, 2343
 diagnosis of, 441e-37f, 1854, 2333f
 genetic considerations in
 genotype-phenotype correlation, 435
 locus and phenotype, 101e-6t, 451e-2t, 562t
 transcription factor mutations, 431t
 VHL gene mutations, 578, 599t, 1620t, 1850t, 1854, 2332, 2337t, 2343
 treatment of, 1854
- von Recklinghausen's disease. *See* Neurofibromatosis type 1 (NF1)
- von Willebrand disease, **730**
 acquired, 677, 730
 bleeding in, 403
 clinical features of, 730–731
 diagnosis of, 731f, 731t
 inheritance patterns in, 730–731, 731f
 pathophysiology of, 403
 subtypes of, 730, 731t
 treatment of, 731–732
- von Willebrand factor
 in platelet activation, 275–276, 275f, 400, 741–742, 741f
 reference values for, 2756t
 in thrombotic thrombocytopenia purpura, 729, 729f
 in von Willebrand disease, 730. *See also* von Willebrand disease
- von Willebrand factor concentrate, 731
- Vorapaxar, 749
- Voriconazole
 adverse effects of, 362, 379, 1331
 for *Aspergillus* infections, 1348, 1349t
 for *Blastomyces* infections, 1338–1339
 for *Candida* infections, 487, 1344t
 for *Coccidioides* infections, 1336
 contraindications to, 1331
 for fungal infections in cancer patient, 491
 for *Fusarium* infections, 1356
 genetic variations in response to, 39t, 1331
 indications for, 1331
 resistance to, 1348
 susceptibility testing for, 150e-8
 for *Trichosporon* infections, 1357
- Vorinostat
 action and targets of, 102e-5t, 102e-8, 103e-18t, 103e-19–20
 adverse effects of, 103e-18t
 for mycosis fungoides, 102e-5t, 103e-20
- Vortioxetine, 2710t
- vpr gene, 225e-3f, 1219f
- Vpr protein, 225e-2
- Vpu (viral protein U), 145e-9
- vpu gene, 225e-3f, 1219f
- Vpu protein, 225e-2
- Vpx protein, 225e-2
- VR, 262e-1t
- VRE. *See* Vancomycin-resistant enterococci (VRE)
- VSD. *See* Ventricular septal defect (VSD)
- V sign, 2195
- v-src gene mutations, 101e-2
- VT. *See* Ventricular tachycardia (VT)
- VTE. *See* Venous thromboembolism (VTE)
- “VT storm,” 1498
- Vulvar cancer, 351, 1198