

- Tuberculosis (TB), in HIV infection (*Cont.*):  
 in developing countries, 12, 12f, 1112–1113, 1122  
 epidemiology of, 1103, 1254  
 immune reconstitution inflammatory syndrome in, 205e-1, 1112–3532110, 1254  
 interaction of, 1233  
 latent infection, 1120t, 1121  
 prophylaxis for, 1251t  
 risk of, 1105, 1105t  
 treatment of, 205e-5, 1119  
 incubation period for, 152e-3t  
 infection control measures, 917, 1284  
 innate resistance to, 1106  
 latent infection  
 diagnosis of, 775  
 screening for, 2147  
 treatment of, 205e-1t, 1120–1121, 1120t  
 multidrug-resistant  
 detection of, 769t, 773, 774  
 epidemiology of, 1103–1105, 1118, 1118f  
 treatment of, 13, 205e-1–2, 1116t, 1118–1119  
 natural history of, 1105  
 pathogenesis of, 1105–1107  
 prevention and control of, 13, 1121–1122  
 pulmonary  
 cough in, 1108  
 hemoptysis, 245  
 hemoptysis in, 1108  
 pleuritis in, 1718  
 postprimary disease, 1105, 1108–1109, 1109f  
 primary disease, 1105, 1108, 1108f  
 in returning war veterans, 152e-3t, 152e-8  
 risk factors for, 1105, 1105t  
 silica exposure and, 1690  
 transmission of, 1105  
 in transplant recipient, 920, 925t, 928  
 treatment of, **205e-1**  
 adherence to, 1116–1117  
 adverse effects of, 205e-1, 1117  
 DOTS/DOTS plus strategy, 13, 205e-1  
 for drug-resistant strains, 205e-1–2, 1118–1119, 1119t  
 drug susceptibility testing, 1113–1114  
 in extrapulmonary disease, 1119–1120  
 failure and relapse, 1117–1118  
 first-line antituberculosis drugs, 205e-2–5, 205e-2t, 1115–1116, 1115t  
 ethambutol. *See* Ethambutol  
 isoniazid. *See* Isoniazid  
 pyrazinamide. *See* Pyrazinamide  
 rifabutin, 205e-5  
 rifampin. *See* Rifampin  
 rifapentine, 205e-5  
 streptomycin, 205e-5, 1115  
 latent infection, 205e-1t, 1120–1121, 1120t  
 monitoring response to, 205e-2t, 1117  
 newer drugs, 205e-7  
 in pregnancy, 1116t, 1120  
 principles of, 205e-1–2, 205e-2t  
 regimens, 205e-2t, 1113–1117, 1116t  
 second-line antituberculosis drugs, 205e-6–7  
 simplified approach to, 205e-2t  
 Tuberin, 562  
 Tuberos sclerosis (Bourneville's disease)  
 brain tumors in, 600  
 clinical features of, 599t, 604, 1850t, 1854  
 genetic considerations in, 101e-6t, 562, 562t, 599t, 604, 1850t, 1854  
 imaging in, 441e-36f  
 pathogenesis of, 604, 1854  
 pNETs in, 562, 562t  
 renal cell carcinoma and, 578, 1854  
 skin manifestations of, 344, 359, 364  
 treatment of, 604  
 Tuberos xanthoma, 436e-4f  
*tub* gene, 415e-4, 415e-4t  
 Tublin, 372e-24t  
 Tuboovarian abscess, 1089, 1099  
 Tubuloglomerular feedback, 332e-2, 332e-10f, 333e-3, 333e-5, 1800  
 Tubulointerstitial diseases, **1856**  
 acute interstitial nephritis. *See* Acute interstitial nephritis (AIN)  
 chronic, 1856t, **1859**  
 analgesic nephropathy, 1861, 1861f  
 aristolochic acid nephropathy, 577, 1804, 1861  
 calcineurin-inhibitor nephropathy, 1829, 1862  
 clinical features of, 1856  
 in glomerulonephritis, 1860–1861  
 heavy metal nephropathy, 1862  
 karyomegalic tubulointerstitial nephritis, 1855, 1861  
 lithium-associated nephropathy, 1861–1862  
 sickle cell nephropathy, 1835t, 1848, 1860  
 vesicoureteral reflux and reflux nephropathy, 1859–1860, 1860f  
 classification of, 1867t  
 cystic and hereditary  
 genetic considerations in, 332e-7t  
 global considerations in, 1855–1856  
 medullary cystic kidney disease, 1850t, 1854  
 medullary sponge kidney, 1850t, 1855, 1866  
 nephronophthisis, 1850t, 1855  
 polycystic kidney disease. *See* Polycystic kidney disease  
 tuberous sclerosis. *See* Tuberos sclerosis  
 von Hippel-Lindau disease. *See* von Hippel-Lindau disease  
 global considerations in, 1862–1863  
 metabolic, 1856t  
 hyperkalemic nephropathy, 307, 1862  
 hypokalemic nephropathy, 1862  
 uric acid nephropathy. *See* Uric acid nephropathy  
 Tubulointerstitial nephritis with uveitis (TINU), 1857–1858, 1857t, 1858f  
 Tularemia, **1066**  
 animal bite-related, 167e-1  
 in bioterrorism, 261e-7  
 clinical features of, 261e-5t, 261e-7, **1067**, 1068t  
 oropharyngeal/gastrointestinal, 1068  
 pulmonary, 1068  
 skin manifestations, 25e-11f, 134t  
 typhoidal, 1067, 1069  
 ulceroglandular/glandular, 134t, 829, 1068, 1068f  
 diagnosis of, 261e-5t, 1069  
 differential diagnosis of, 1069, 1069t  
 epidemiology of, 1067  
 etiology of, 1067  
 global considerations in, 1067  
 pathogenesis of, 1067  
 prevention of, 261e-5t, 261e-8, 1070  
 prognosis of, 1070  
 septic shock in, 781  
 treatment of, 261e-5t, 261e-7–8, 1069–1070  
 Tula virus, 1307t  
 Tullio phenomenon, 219  
 Tumbu fly, 2747  
 Tumeric, 404t  
 Tumor, 103e-1. *See also specific types and sites*  
 Tumor (sign of inflammation), 414f, 1753  
 Tumor (skin lesion), 339t  
 Tumoral calcinosis, 426e-7t, 426e-8, 1815, 1815f, 2460  
 Tumor burden, 470  
 Tumor-induced osteomalacia, 2459, 2460  
 Tumor lysis syndrome  
 acute kidney injury in, 1804, 1806t  
 clinical features of, 1795, 1804  
 hyperkalemia in, 310  
 hypocalcemia in, 315  
 treatment of, 431e-5, 1795–1796, 1796f  
 Tumor markers, 473, 473t  
 in carcinoma of unknown primary, 120e-1, 120e-2t  
 in ovarian cancer, 592  
 in pancreatic cancer, 554, 555  
 in testicular cancer, 588  
 Tumor necrosis factor (TNF)  
 in anemia of inflammation, 630, 630f  
 in fever induction, 124, 125f  
 in sarcoidosis, 2205, 2205f  
 Tumor necrosis factor receptor(s), 102e-8  
 Tumor necrosis factor receptor-1–associated syndrome, 372e-8t, 1845  
 Tumor necrosis factor (type III) receptor family, 372e-16  
 Tumor necrosis factor- $\alpha$  (TNF- $\alpha$ )  
 in ankylosing spondylitis, 2170  
 in *Brucella* infections, 194e-2  
 in depression, 465e-4  
 functions of, 422  
 in HIV infection, 1235  
 in nontuberculous mycobacterial infections, 1129  
 in rheumatic fever, 2150  
 in rheumatoid arthritis, 2141, 2142f, 2143  
 in sepsis/septic shock, 1753  
 in shock, 1746–1747  
 source, target, and biologic activity of, 372e-11t  
 in tumor angiogenesis, 102e-15  
 Tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) inhibitors. *See also specific drugs*  
 adverse effects of, 1962, 2146t, 2173  
 antibody development, 1961  
 cutaneous, 378–379, 1962  
 hepatosplenic T-cell lymphoma, 1962  
 infections, 1962, 2145, 2147, 2173  
 latent tuberculosis reactivation, 2147  
 non-Hodgkin's lymphoma, 1961–1962  
 periodic syndrome (TRAPS), 141, 422, 2213t, 2214–2215  
 serious, 348, 348t, 2146t  
 for alcoholic liver disease, 2053, 2054f, 2059  
 for ankylosing spondylitis, 2172–2173  
 for autoimmune and inflammatory diseases, 372e-30  
 contraindications to, 348, 2173  
 for IBD, 1961, 2179  
 monitoring during treatment with, 2146t  
 for psoriasis, 348, 348t  
 for psoriatic arthritis, 2177  
 for rheumatoid arthritis, 2145, 2146t, 2147, 2148  
 Tumor necrosis factor- $\alpha$  receptor-associated periodic syndrome (TRAPS), 141, 422, 2213t, 2214–2215  
 Tumor necrosis factor- $\beta$  (TNF- $\beta$ ), 372e-11t  
 Tumor-suppressor genes  
 caretaker genes, 101e-2, 101e-5  
 definition of, 101e-2, 101e-4  
 epigenetic silencing of, in cancer, 102e-7–8, 102e-8f  
 inactivation of, 101e-2, 101e-4  
 in lung cancer, 508  
 in thyroid cancer, 2304–2305, 2305t  
 Tumor vaccines, 103e-20  
 Tumstatin, 102e-17f  
 Tunari virus, 1319  
*Tunga penetrans*, 2750  
 Tungiasis, 2750  
 Tungsten carbide exposure, 1691  
 Tunica media, 265e-1, 265e-1f  
 Tunneled catheters, 1823  
 Tunnel infections, 1825  
 Turcot's syndrome, 538t, 539, 599t, 602  
 Turkey handling disease, 1681t  
 Turner's sign, 2092  
 Turner's syndrome, **2351**  
 aortic valve disease in, 1529  
 autoimmune polyendocrine deficiencies in, 2347t, 2348  
 clinical features of, 2351, 2351t  
 coarctation of the aorta in, 1620  
 genetic considerations in, 83e-4, 439  
 IBD and, 1949t  
 lymphedema in, 1654  
 pathophysiology of, 2351  
 prevalence of, 2254t  
 primary ovarian insufficiency in, 336, 337  
 screening/testing for, 2254t  
 treatment of, 2351–2352