PET and PET/CT have changed the diagnostic algorithm in oncology. Health care systems worldwide have recently approved reimbursement for PET and PET/CT for staging of non-small cell lung cancer and differential diagnosis of solitary pulmonary nodules because PET and PET/CT have been found to be cost-effective for those uses. Additional indications that are covered by health care systems in the United States and several European countries include staging of gastrointestinal tract cancers, breast cancer, malignant lymphoma, melanoma, and head and neck cancers. Regarding these indications, diagnostic effectiveness and superiority over conventional imaging modalities have been shown, whereas cost-effectiveness has been demonstrated only in part. This article reports on the current knowledge of economic evaluations of PET and PET/CT in oncologic applications. Because more economic evaluations are needed for several clinical indications, we also report on the methodologies for conducting economic evaluations of diagnostic tests and suggest an approach toward the implementation of these tests in future clinical studies.