Management of nutritional disorders rests on making a diagnosis. The ICD-10 classification of diseases lists a large number of nutritional diagnoses without suggesting a measurement definition of each disorder. Some areas of clinical acceptance, such as visceral obesity are not listed. Use of the BMI has become ubiquitous to categorize disorders of over- and under-nutrition, but is best suited for epidemiological use, and has significant limitations in categorizing an individual for diagnostic purposes. A variety of body composition tools and models are described in the literature, but are variably available in those areas where patients with these disorders are located. Even so, there are limitations to making nutritional diagnoses associated with lack of ethnic or age-related data. Techniques such as anthropometry, bio-impedance or DEXA, whilst widespread, need validation from current “gold standard” methods such as CT or MRI. Questions such as “How much whole body protein loss constitutes mild, moderate or severe protein malnutrition?” remain difficult to answer. The complementary use of biochemical or functional tests to body composition methods adds to clinical syndromes of nutritional disorders, but brings similar definitional issues.