

Table 2.2: Respiratory vs. Non-respiratory TB Disease

Respiratory Tuberculosis Disease	Non-respiratory Tuberculosis Disease
<ul style="list-style-type: none"> • Lungs • Conducting airways • Pleura • Intrathoracic lymph nodes • Mediastinum • Nasopharynx • Nose • Sinus 	<ul style="list-style-type: none"> • Peripheral lymph nodes • Genitourinary system • Bone and joint • Intestines/Peritoneum/Mesenteric glands • Brain/Meninges • Eye/Retina • Ear • Thyroid • Adrenals • Liver • Spleen • Skin • Myocardium/Epicardium/Pericardium • Oesophagus

Those with reactivated TB disease (in the past referred to as post primary disease) will manifest as respiratory, non-respiratory disease or both in rare cases. The differentiation of both diseases is described in **Table 2.2**.

Non-respiratory disease occurs when the immune system does not contain the bacteria and they gain access to the circulatory system and lymphatic system seeding other organ sites as a consequence. Non-respiratory tuberculosis involvement tends to increase in those with worsening immune compromise.

Risk Factors

Specific risk factors have been identified for the development of active TB among persons who are infected with MTB. The lifetime cumulative risk to develop TB disease is 10% and these risk factors influence at various levels of the immune response as it diminishes, leading to the possibility of reactivation.

Table 2.3: Risk Factors for the Development of Active TB Among People with a Positive Tuberculin Skin Test (Presumed Infected With *Mycobacterium Tuberculosis*)

Risk Factor	Estimated risk factor for development of TB, relative to <u>no known</u> risk factor
HIGH RISK	
Acquired immunodeficiency syndrome (AIDS)	110–170
Human immunodeficiency virus infection (HIV)	50–110
Transplantation (related to immune-suppressant therapy)	20–74
Silicosis	30
Chronic renal failure requiring hemodialysis	10–25
Carcinoma of head and neck	11.6
Recent TB infection (<2 years)	15.0
Abnormal chest x-ray – fibronodular disease	6-19
MODERATE RISK	
Tumour necrosis factor alpha inhibitors	1.5–4
Diabetes mellitus (all types)	2–3.6
Treatment with glucocorticoids (>15mg/d prednisone)	4.9
Young age when infected (0–4 years)	2.2–5
SLIGHTLY INCREASED RISK	
Heavy alcohol consumption (≥ 3 drinks/day)	3–4
Underweight ($\leq 90\%$ ideal body weight; for most people, this is a body mass index ≤ 20)	2–3
Cigarette smoker (1 pack/day)	1.8–3.5
Abnormal chest x-ray – granuloma	2
LOW RISK	
Person with positive TST, no known risk factor, normal chest x-ray (“low risk reactor”)	1
VERY LOW RISK	
Person with positive two-step TST (booster), no other known risk factor and normal chest x-ray	1

Other important considerations for the development of TB relate to social risk factors and/or more individual risk factors which increase exposure to infectious droplets or impair the host's defense against infection leading to increased susceptibility to disease (**Table 2.4**)

Table 2.4: Other Factors for Disease Development

Social Risk Factors	Proximal (Individual) Risk Factors
<ul style="list-style-type: none"> • Low socioeconomic status • Vulnerable populations (e.g. prisoners, homeless) • Certain ethnic minorities • Immigrants from high endemic countries • Aboriginal population 	<ul style="list-style-type: none"> • Malnutrition • Smoking tobacco • Alcohol abuse • Wide range of chronic conditions (e.g. Diabetes) • Malignancies • Immunosuppressive conditions i.e. HIV

The causal pathway is not well understood between all these factors and TB; nonetheless, each of these factors adds significantly to the risk of developing TB infection and/or disease.