



## Screening for Latent Tuberculosis Infection (LTBI) and its management in Inflammatory arthritis patients

### **SCREENING:**

LTBI screening is recommended prior to starting anti-TNF therapy as such treatment can cause 'reactivation' of TB.

The WHO has clear guidelines on LTBI screening <http://www.who.int/tb/challenges/tbi/en/> Assessment generally includes a detailed history – birth, travel, exposure risk etc; a Chest X-ray to look for evidence of old TB infection and either Mantoux (Tuberculin skin test-TST) or Interferon Gamma release assay (IGRA – such as QF Gold).

In Australia, the cost QF Gold is less than TST and is easier to administer. Additionally, the QF Gold is more specific than TST. Both tests may be influenced by the presence of immune modulating therapy. It is therefore recommended that LTBI screening occurs at the initial diagnosis of inflammatory arthropathy (RA, AS, PsA or JIA) before DMARDs or corticosteroids are used. Tuberculosis affects one third of the world population and even if patients are not from an endemic high prevalence area, they may travel to these areas. In the USA, the background rate of TB in patients with RA who had not received a TNF inhibitor was 6.2 cases per 100,000. The Australian background rate is slightly less. LTBI is by definition asymptomatic but is capable of rapid evolution to disease after a long latency although only 10% of people with LTBI normally go on to active TBI. Treatment of LTBI cases before TNF inhibitor commencement decreases the incidence of active TBI development by more than 80%.

Any positive high-risk modality response as per the algorithm (Fig 1) should usually be considered for LTBI treatment. In the presence of multiple positive moderate risk modality responses, LTBI treatment needs to be considered on a case by case basis.

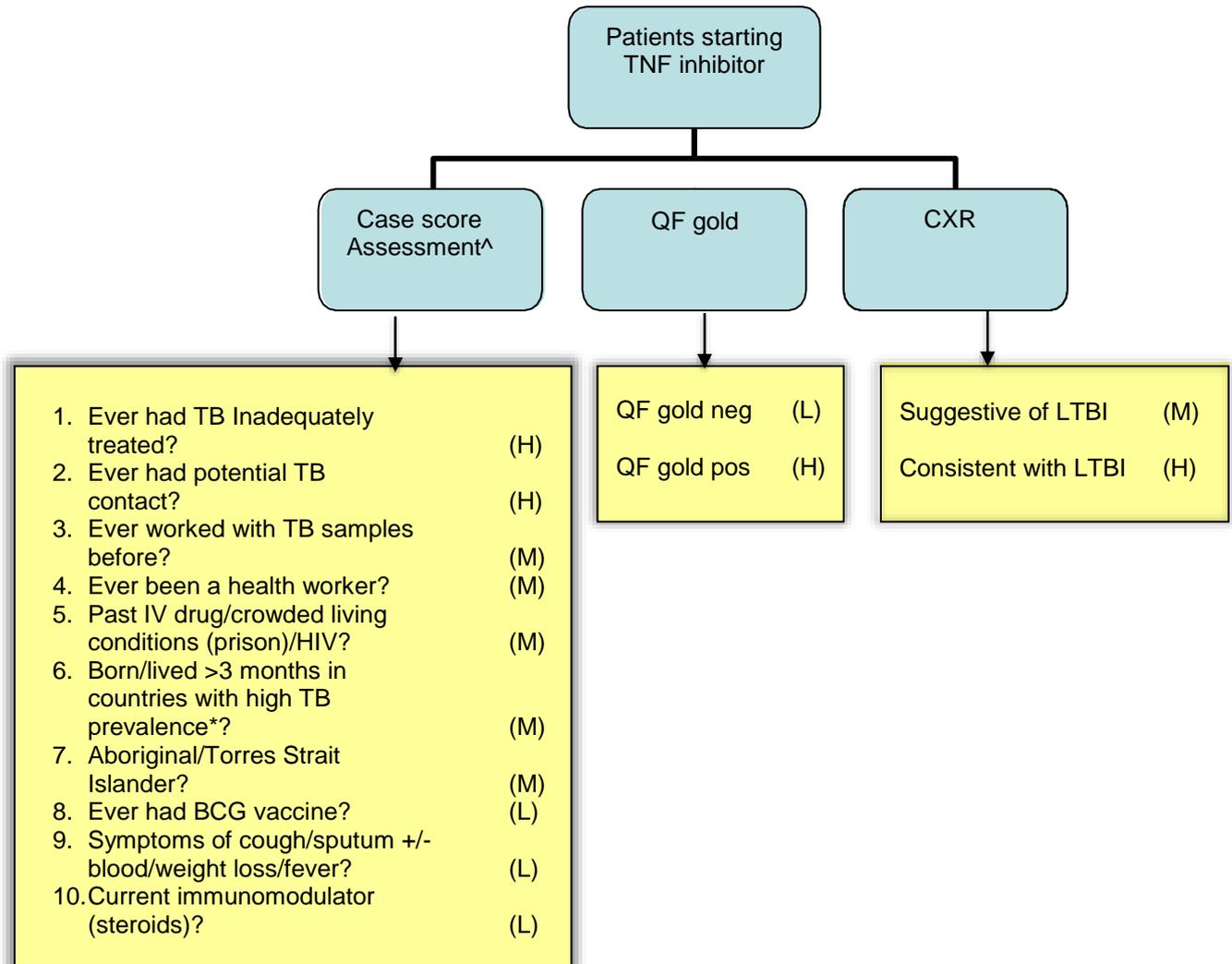
The majority of cases with reactivation of LTBI to active TBI occur within 12 weeks of commencement of TNF inhibitor use and over 50% have extra pulmonary TB site infection. If a patient becomes unwell with fever and weight loss on TNF inhibitor treatment, the possibility of TBI should be considered even if initial LTBI screening tests were negative.

**SUMMARY SCREENING RECOMMENDATIONS:** Clinical history, CXR and QF-Gold.

### **TREATMENT of LTBI:**

This is best done in conjunction with local physicians expert in managing such cases. Patients with LTBI are usually recommended to commence prophylaxis with Isoniazid (5mg/kg/d, maximum 300mg/d) with pyridoxine (25mg/d) for 6-9 months or Rifampicin (10mg/kg/d, maximum 600mg/d) for four months. There is general consensus that TNF inhibitor therapy can be commenced concurrently 1-2 months after beginning prophylaxis.

Figure 1. ALGORITHM for LTBI screening for patients commencing TNF inhibitors. Each modality assesses whether patients are at low (L), moderate (M) or high (H) risk. Any high-risk modality response should be referred to the local TB expert for consideration LTBI treatment. Consider LTBI therapy if multiple moderate risk modalities. Adapted from Perera LC, Tymms KE, Dorai Raj AK et al. IMJ 2006: 36(Suppl 2):A29



<sup>^</sup>Each question stratifies a patient into a risk category. Patient is classed as the highest category they have obtained. If patient answered yes to more than one moderate risk category question, they are still classed as moderate risk.

\*High TB prevalence countries include India, Pakistan, Bangladesh, China, Philippines, Indonesia, Ethiopia, Nigeria, South Africa, Congo.

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