Update on Discontinuing TB Isolation

Appendix B, Provincial TB Manual

Updates reflect Canadian TB Standards, 8th ed, Appendix B recommendations

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Key message

Prolonged airborne isolation is associated with patient harms and increased costs and is often not necessary to lower risk of spread.

Potential Harms of Prolonged Isolation

- TB Isolation is associated with anxiety, fear, and mood disorders
- Patients under isolation often have less visitors than other patients
- Recent qualitative studies in patients with MDR-TB and their family indicate a strong preference for early de-isolation
- Providers may feel obligated to “intensify therapy” to facilitate smear conversion (even if this may not improve cure rates)
- Providers may perform more frequent sputum sampling to detect smear conversion ASAP, increasing costs

Ref: Harms of Isolation in TB, 1-5

Key message

Studies suggest the infectiousness of people with pulmonary TB disease on effective therapy is related to the efficacy and duration of TB treatment. People with pulmonary TB quickly become non-infectious once effective TB therapy starts, usually within days.

Pre-Clinical Studies

- Guinea pig data demonstrate that human-to-guinea pig transmission nearly stops within 1-2 days of effective therapy. (Ref 1-4)
- Cough aerosol sampling show that once treatment starts, production of cough aerosols with infectious bacilli ends in days (Ref 5-9)
- Transcriptomic studies demonstrate that the *M. tuberculosis* transcriptome rapidly changes once effective therapy has started, which may in turn impact infectiousness (Ref 9-11)

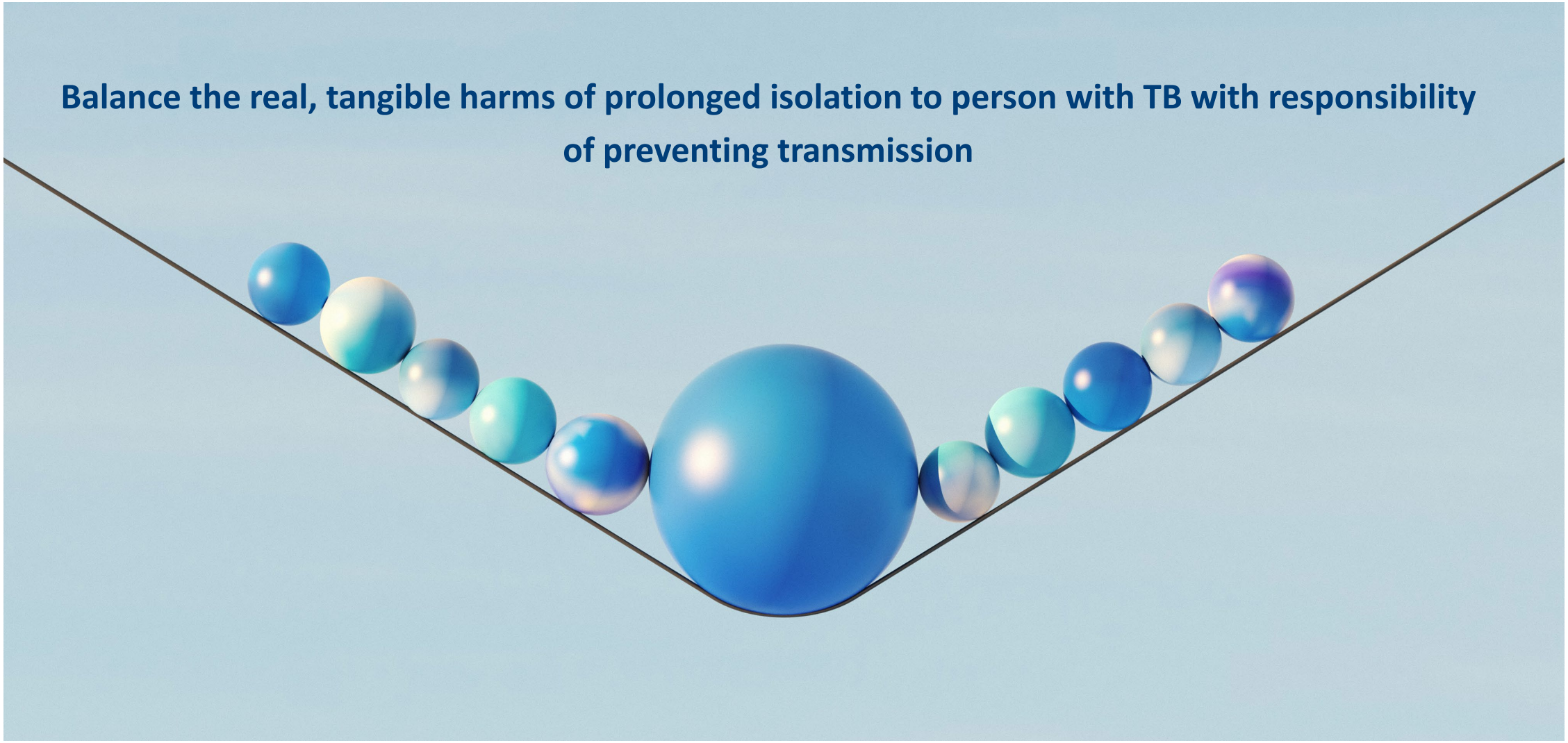
Clinical Studies

- RCT data: one RCT in Madras >50 years ago: no difference in TB incidence between household contacts of people treated in sanitorium versus those “de-isolated” at home (Ref 1-2)
- Observational data:
  - TST positivity in contacts does not differ by sputum status at time of de-isolation (3)
  - No conversions in contacts of people de-isolated while smear positive (4)

Practice Implications

- **Smear and culture status are helpful indicators of infectiousness pre-treatment.**
- **Once effective TB therapy is started, microbiological results are poor indicators of infectiousness.**
- **De-isolation of people with pulmonary TB should focus on treatment efficacy and duration.**

Aim of TB de-isolation recommendations



De-Isolation Recommendation

Discontinue isolation for **rifampin-susceptible*** TB results when the following are true:

At diagnosis:
AFB smear-negative/culture-positive

- Evidence of clinical improvement
- 2 weeks of effective, multidrug therapy is completed

AFB smear-positive/culture-positive

- Evidence of clinical improvement
- 2 weeks of effective, multidrug therapy is completed
- 3 consecutive AFB-negative sputum-smears

Note: No change from previous recommendations

*De-Isolation recommendations are specific to rifampin-susceptible TB organisms since at many sites the available rapid resistance testing will be completed via a GeneXpert. Further confirmation at the BCCDC Public Health Lab may take longer than 2 or 4 weeks.

De-Isolation Recommendation

Discontinue isolation for **rifampin-susceptible** TB results when the following are true:

Persistent* AFB smear-positive/culture-positive

- Evidence of clinical improvement
- 4 weeks of effective, multidrug therapy is completed

This update reflects that a **maximum duration** of isolation has been established.

*persistent means smears continue to be positive after 2 weeks effective therapy

De-Isolation Recommendation

Discontinue isolation for **rifampin-resistant** TB results when the following are true:

Rifampin-resistant pulmonary TB

- **Case review with TB Services**
- Evidence of clinical improvement
- 4 weeks of effective, 2nd line multidrug therapy is completed
- 2nd line sensitivity results are available
- If initially AFB smear positive, three consecutive AFB smears must be negative

This update reflects that confirmation of culture conversion is not needed to de-isolate.

Further points

- Emphasis on home-isolation wherever possible, and ASAP
- Emphasis on strategies to support strong adherence

- US guidelines de-isolate within as few as 5 days post-effective therapy
- The practicality of these recommendations and rollout have yet to be tested

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