

**Title** BCG Revaccinations

**Agency** MaHTAS, Health Technology Assessment Section,  
Medical Development Division, Ministry of Health Malaysia  
Level 4, Block E1, Parcel E, Presint 1,  
Federal Government Administrative Center, 62590 Putrajaya, Malaysia  
Tel: +603 88831229, Fax: +603 88831230  
htamalaysia@moh.gov.my, www.moh.gov.my

**Reference** Technology Review Report, 009/2011  
[http://www.moh.gov.my/technology\\_reviews/178](http://www.moh.gov.my/technology_reviews/178)

## Aim

To assess the safety, effectiveness and cost effectiveness of BCG revaccination for the prevention of tuberculosis occurrence.

## Conclusions and results

In terms of efficacy, there was fair to good level of evidence to show that BCG revaccination did not provide additional protection when given to children with scar. There was insufficient evidence on safety but it showed that occurrence of adverse event following second dose of BCG vaccination was rare. There was only one fair level of evidence on cost effectiveness, which showed that BCG revaccination was not cost effective in low incidence TB country given the lack of protection provided by the second dose.

## Recommendations

Based on the above review, second dose of BCG vaccine was not recommended in older children, as evidences showed that it did not provide additional protection against TB and pulmonary TB. There was also evidence to show that revaccination was not cost effective. It is recommended that future studies to be conducted to evaluate the risk of developing TB in the cohort after discontinuation of BCG revaccination. This cohort is recommended to be monitored either through a survey or institution of a surveillance system. Further assessment in quantifying cost effectiveness of the existing vaccination strategy may also be conducted in providing quality evidence to further support the national vaccination policy.

## Methods

Literature were searched through electronic databases which included PubMed, Medline and Cochrane Database via Ovid search engine and general databases such as Google and Yahoo. The search strategy used the terms, which were either used singly or in various combinations: "BCG", "vaccination", "revaccination", "booster", "second dose", "tuberculosis", "prevention", "control" and "treatment". The search was limited to articles on humans. There was no language limitation in the search. Systematic reviews, meta-analysis and randomised clinical trials pertaining to effectiveness, safety and cost effectiveness of BCG revaccination were included. A critical appraisal of all relevant literature was performed using Critical Appraisal Skills Programme (CASP) checklists and the evidence graded according to the US/Canadian Preventive Services Task Force Level of Evidence (2001).

## Further research/reviews required

Future studies to be conducted to evaluate the risk of developing TB in the cohort after discontinuation of BCG revaccination. This cohort is recommended to be monitored either through a survey or institution of a surveillance system. Further assessment in quantifying cost effectiveness of the existing vaccination strategy may also be conducted in providing quality evidence to further support the national vaccination policy.

## Written by

Roza S, MaHTAS, Malaysia