

Revised Trunk Wash Collection Procedure for Captive Elephants in a Range Country Setting

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In elephants, trunk washes are taken to diagnose tuberculosis and culturing the trunk wash is essential for proper treatment protocols based on drug sensitivity tests. Guidelines for the control of tuberculosis in elephants by the United States' National Tuberculosis Working Group for Zoo and Wildlife Species describe the procedure for trunk wash collection. According to the described procedure, 60 ml sterile 0.9% saline solution is instilled into the trunk of an elephant using a sterile syringe. After lifting the trunk as high as possible and then lowering, the wash is collected in a plastic bag placed on the tip of the trunk.

The procedure requires elephants to allow their keepers to restrain and manipulate the tip of the trunk. During field trials in southern India, it was observed that this imposed a limitation on the use of the technique. Unlike captive elephants maintained in zoos and circuses in non-range countries, which are trained to 'perform', most captive elephants in range countries are trained and conditioned only for 'work'. Majority of such elephants are 'trunk-phobic' and any handling or manipulation of the trunk led to struggle, and often resulted in contaminated collections.

To overcome this difficulty a revised method was developed by trial and error to collect trunk washes from 'trunk-phobic' elephants without touching the trunk. The hot and humid climate in southern India, which results in copious discharge from the trunk even with slight exercise, helped the revised procedure. The revised trunk wash collection procedure as described below gave good collections with minimal training and behavioral conditioning from 'trunk-phobic' elephants without manipulating the trunk. Compared to the collections done by the procedure using a plastic bag and trunk manipulation, con-

tamination observed during culture for isolation and identification of mycobacteria was also found to be much less by the revised procedure.

Step 1: After a short period of exercise, the keeper commands the tusker to 'tie its trunk' on to the tusk so that the elephant rests the trunk on the tusk (Fig. 1). Tuskers performed the 'trunk-tie' without inhibition since almost all of them are trained for this practice, especially for the safety of mahouts. In case of a makhna (male elephant without tusks) and female elephants, the 'trunk-tie' is performed on a long pole (Fig. 2). The 'trunk-tied' elephant then stands in the sun for 10-15 minutes while the discharge accumulates in the trunk. Makhna and female elephants

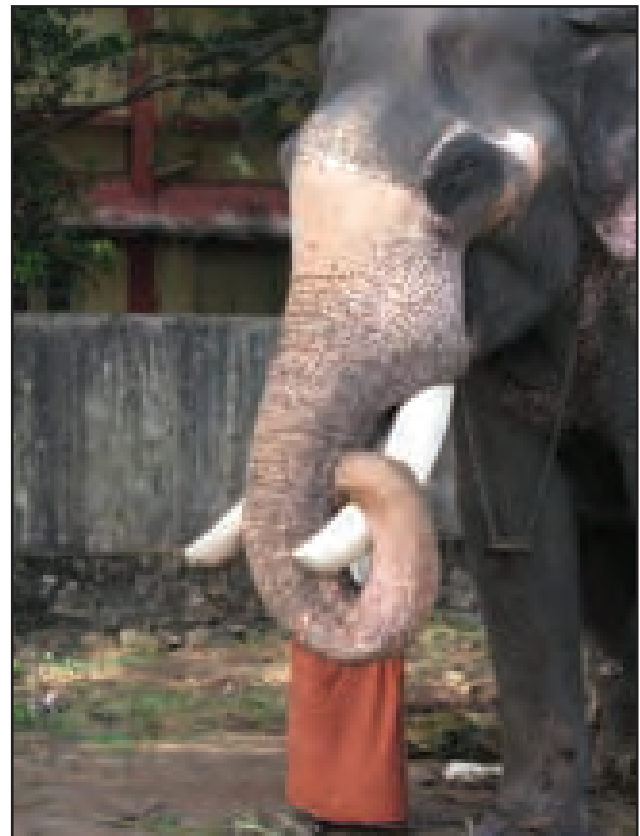


Figure 1. 'Trunk-tie' by tusker.



Figure 2. ‘Trunk tie’ for makhna or female.

were made to walk for 10-15 minutes holding the pole, as when standing in one place they refused to hold the pole continuously. The quantity of discharge was less when the elephants stood or walked in shade.



Figure 3. Adding the saline into the tray with ‘trunk tied’ elephant in the sun in the background.

Step 2: 30 ml 0.9% saline is taken in a sterile plastic tray (Fig. 3), the tray placed on the ground beneath the trunk, and the keeper commands the elephant to ‘drink’ from the tray. When the elephant lowers the trunk into the tray the accumulated discharge drains directly into the tray on its own (Fig. 4). The command to drink is normally used with all elephants and is sufficient to make the elephant extend its trunk into the tray. When the trunk is extended to the tray, the keeper prevents the elephant from aspirating the fluid in the tray. The usual quantity of discharge collected by this revised procedure during the hot part of the day was about 15-20 ml.

Step 3: Discharge is mixed with saline by tilting motions of the tray. Collection is poured into a 50 ml sterile screw-capped tube and dispatched to the laboratory in cold chain.



Figure 4. Placing the tray on the ground and the elephant extending the trunk to the tray allowing the accumulated discharge to drain in to the tray.

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