The purpose of the present study was to elucidate whether tracheal transport velocity was affected by difference in size of tracer materials placed on the tracheal mucosa.

The following tracer materials labeled with Tc-99m were used: Tc-pertechnetate, human serum albumin (HSA), albumin microparticle suspension (MISA), albumin microspheres (MISA, 23 to 45μm), and macroaggregated albumin (MAA, 10 to 60μm). The tracer material, 0.025 to 0.05 ml in volume, was placed at the carina of an anesthetized dog through a catheter under fiberoptic bronchoscopic guidance. Sequential imaging was made with a gamma camera. To estimate the mean migrating velocity (MMV), a linear regression was calculated from time required for migration and the migrating distance.

In conclusion, tracheal transport velocity doesn't seem to be affected by difference in size of the tracer materials placed on the mucosal surface.