



# CDB SEMINAR

## Koji Kojima

Laboratory for Tissue Engineering and Regenerative Medicine,  
Brigham and Women's Hospital, Harvard Medical School

Tuesday, July 20 2010

16:00~17:00 C1F Auditorium

## Exploring the Creation of a Tissue Engineered Trachea -Keeping our eyes towards the clinical world

### Summary

Extensive tracheal reconstruction is often required in patients with benign and malignant diseases. However, difficulties arise with the use of prosthetic materials because of their propensity for infection and extrusion, while autologous tissue grafts are limited by poor structural characteristics and technical complexity. None of these therapies have been effective. Moreover, attempts to use sophisticated devices or biomaterials, as well as using embryonic stem cells for tracheal replacement are going to require new FDA approval, which will take a significant amount of time while many patients continue to suffer. Therefore, the goal of our study will be to create a completely autologous tissue engineered tracheal structure composed of a cartilaginous framework with connective tissue using tissue harvested from a single procedure. I would like to show how we designed and manipulated a biodegradable material combined with autologous cells to form human tissue shaped in the form of a trachea, and would also like to discuss how our laboratory has always had a focus on doing research for patients with real problems, trying to find solutions for them using our techniques.

**Host:**  
**Teruhiko**  
**Wakayama**  
Genomic  
Reprogramming,  
CDB  
[teru@cdb.riken.jp](mailto:teru@cdb.riken.jp)  
Tel:078-306-3049  
(ext:4403)

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