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Supplemental materials

<https://bcove.video/3UQEXR4>

E-Video1. 2D dynamic MRI data acquired in free breathing condition.

E-Video2. 3D animations of lungs during tidal breathing for two thoracic insufficiency syndrome (TIS) patients before and after surgery, and for two age-matched normal children.

<https://bcove.video/3RxRrtS>

E-Video 2a. 3D animations of lungs for TIS #40 before surgery (6.5 yrs).

<https://bcove.video/3M26tXO>

E-Video 2b. 3D animations of lungs for TIS #38 before surgery (7.2 yrs).

<https://bcove.video/3Edhaos>

E-Video 2c. 3D animations of lungs for normal child (8.2 yrs).

<https://bcove.video/3SzB6X1>

E-Video 2d. 3D animations of lungs for TIS #40 after surgery (9.2 yrs).

<https://bcove.video/3fCKw5I>

E-Video 2e. 3D animations of lungs for TIS #38 after surgery (8.3 yrs).

<https://bcove.video/3rrofdF>

E-Video 2f. 3D animations of lungs for normal child (13.4 yrs).