The Effect of Physical Therapy on Respiratory Complications Following Cardiac Valve Surgery
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Setting the scene:
To determine whether higher personnel intensive chest physical therapy can prevent the atelectasis that routinely follows cardiac valve surgery.

What did they do?
Seventy-eight patients undergoing elective cardiac valve surgery. Patients were randomized in an unmasked fashion to receive early mobilization and sustained maximal inflations (lower-intensity treatment) or to receive early mobilization, sustained maximal inflations, and single-handed percussions (higher-intensity treatment). Clinical efficacy was determined by extent of atelectasis, length of ICU stay, total length of hospital stay, and personnel cost. The extent of postoperative atelectasis was similar in both groups on the fifth postoperative day. Postoperative values of FVC and FEV1 were reduced to a similar extent in both groups. Hospital and ICU stays were similar regardless of both groups. Physical therapy costs were highest in the higher-intensity therapy group.

Takeaway message:
Postoperative respiratory dysfunction is common but does not usually cause significant morbidity or prolong hospital stay. The routine prescription of high intensity physical therapy does not improve patient outcomes but does add significantly to patient costs.