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*primary studies - published, non RCT*

## **Pilot trial of spirometer games for airway clearance practice in cystic fibrosis.**

**Code:** PM22348602

**Year:** 2012 **Date:** 2012

**Author:** Bingham PM

### **Study design (if review, criteria of inclusion for studies)**

pilot trial

### **Participants**

13 adolescents with CF

### **Interventions**

spirometer games. Subjects were provided with digital spirometers and computers set up as "game only" or "control" devices. After the first of 2 periods (each > 2 weeks), the computer was set-up for the alternate condition for period 2.

### **Outcome measures**

use, number of expiratory high flow events (HFEs), and change in PFTs

### **Main results**

Interviews disclosed minimal awareness of ACTs among our pediatric CF patients. Subjects used games and control software a similar percentage of days during the game (26%) and control periods (32%). There was a trend toward more minutes with the game versus control setup ( $P = .07$ ), though HFE count did not differ between the 2 conditions ( $P = .71$ ). Game play showed no overall effect on FEV(1), though correlation analysis showed a modest relation between minutes of play and change in FEV(1) from baseline ( $r = 0.50$ ,  $P = .09$ ). The game period showed a trend to increased vital capacity ( $P = .05$ ).

### **Authors' conclusions**

Spirometer games elicit forced expiratory breath maneuvers in pediatric CF patients. Improvement in PFTs may be due to improved test performance technique, though improved obstructive/restrictive lung function due to game play cannot be excluded. A formal clinical trial of this approach is planned.

<http://dx.doi.org/10.4187/respcare.01263>

### **See also**

Respir Care. 2012 Aug;57(8):1278-84. Epub 2012 Feb 17.

### **Keywords**

Child; non pharmacological intervention - psyco-soc-edu-org; Respiratory Tract Diseases; Games- Experimental;