



US006234804B1

(12) **United States Patent**  
**Yong**

(10) **Patent No.:** **US 6,234,804 B1**

(45) **Date of Patent:** **May 22, 2001**

(54) **THORACIC TRAINING MODEL FOR  
ENDOSCOPIC CARDIAC SURGERY**

5,947,744 \* 9/1999 Izzat ..... 434/272  
6,062,866 \* 5/2000 Prom ..... 434/268

(76) Inventor: **Peter Yong**, 1124 W. Carson St., RB-2,  
Torrance, CA (US) 90502

**OTHER PUBLICATIONS**

Pacific Research Laboratories, *Sawbones* Medical Catalog,  
1999, p. 38.

(\* ) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.

\* cited by examiner

*Primary Examiner*—Jacob K. Ackun  
*Assistant Examiner*—Kit Fernstrom

(21) Appl. No.: **09/517,413**

(74) *Attorney, Agent, or Firm*—Knobbe, Martens Olson &  
Bear, LLP

(22) Filed: **Mar. 2, 2000**

(57) **ABSTRACT**

**Related U.S. Application Data**

(60) Provisional application No. 60/122,543, filed on Mar. 2,  
1999.

A method and an apparatus for training for cardiac surgery  
using endoscopic techniques are provided. The apparatus  
comprises a model thorax having an internal cavity and a  
plurality of ribs, intercostal spaces between the ribs through  
which an endoscopic instrument can be inserted during use  
of the model, and a heart located in the internal cavity and  
removably connected to the model, the heart having a  
coronary artery on which surgical training can be performed  
during use of the model. The apparatus also comprises a  
sternum located on the anterior aspect of the thorax, and at  
least one internal mammary artery located on a posterior  
surface of the sternum. The apparatus can also include a fluid  
system in communication with the heart and providing  
pressurized fluid to the coronary artery, such that cutting the  
artery simulates bleeding as the pressurized fluid effuses  
from the artery.

(51) **Int. Cl.**<sup>7</sup> ..... **G09B 23/28**

(52) **U.S. Cl.** ..... **434/267; 434/268; 434/272;**  
434/274

(58) **Field of Search** ..... 434/262, 265,  
434/267, 268, 272, 270, 274, 275

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

3,999,309	*	12/1976	Gonzalez	.....	434/272
4,288,222	*	9/1981	Kling	.....	434/272
4,773,865	*	9/1988	Baldwin	.....	434/268
4,938,696	*	7/1990	Foster	.....	434/267
5,061,188	*	10/1991	McCollum	.....	434/272
5,634,797	*	6/1997	Montgomery	.....	434/268
5,800,179		9/1998	Bradford E. Bailey	.....	434/262

**13 Claims, 6 Drawing Sheets**

