

## ***112 Human Factors in Surgery***

To air week of March 24, 2008

Intro: Fifty years ago doctors at Mayo Clinic in Rochester Minnesota opened the doors to modern open heart surgery using the heart lung machine. Back then you had about a 50-50 chance of making it off the table. Now you can be 98-percent certain that you'll survive. But doctors at Mayo Clinic say that's not good enough. They're using methods developed by the aeronautics industry to make surgery even safer.

**Video**

**Total running time 1:52**

**To cockpit shots with pilots**

**Pilot talking**

**Standup**

**Vivien Williams**

**Reporting**

**Audio**

AIR TRAVEL IS VERY COMPLEX,  
BUT VERY SAFE. A MAIN REASON  
FOR THIS HIGH LEVEL OF SAFETY  
IS THE TIME AND RESEARCH THE  
INDUSTRY PUT INTO DESIGNING  
TECHNOLOGY THAT'S USER  
FRIENDLY. FOR EXAMPLE,  
EVERYTHING THE PILOT NEEDS IS  
AT HIS OR HER FINGERTIPS. AND  
HE OR SHE CAN COMMUNICATE  
WITH THE CREW AT ANYTIME. THIS  
DESIGN MAKES IT LESS LIKELY  
FOR THE PILOT TO MAKE ERRORS.  
SUCH FINELY TUNED  
ORCHESTRATION GREW OUT OF  
AN AERONAUTICS DISCIPLINE

**Thoralf Sundt, M.D.**  
**Mayo Clinic Surgeon**

CALLED HUMAN FACTORS.  
“THEY DEVELOPED APPROACHES  
FOR DEALING WITH THE  
COMPLEXITIES OF THE AIRCRAFT,  
SUCH AS CHECK LISTS, TO HELP  
THE HUMAN COPE WITH VERY  
COMPLEX MACHINERY.”  
AND THAT’S WHAT SURGEON  
THORALF SUNDT HOPES TO DO IN  
THE OPERATING ROOM.

**Thoralf Sundt, M.D.**  
**Mayo Clinic Surgeon**

“WHAT HUMAN FACTORS MEANS  
TO US IN THE OPERATING ROOM IS  
TRYING TO UNDERSTAND HOW TO  
PREVENT ERRORS IN MEDICINE.  
AND IF AN ERROR OCCURS HOW  
TO CAPTURE IT QUICKLY BEFORE  
ANY HARM IS DONE.”  
DR. SUNDT IS TEAMING UP WITH  
QUALITY CARE EXPERT SARAH  
HENRICKSON ON A STUDY TO SEE  
IF OBSERVING WHAT HAPPENS IN  
THE O.R. CAN HELP THEM  
UNDERSTAND HOW TO MAKE THE

**Thoralf Sundt, M.D.**  
**Mayo Clinic Surgeon**

PROCESS BETTER AND SAFER.  
YOU CAN SEE HOW THE CAMERA  
USED IN THE STUDY MAY HAVE  
CAUGHT AN AREA WHERE  
COMMUNICATION COULD BE  
IMPROVED – BETWEEN THE  
SURGEON AND THE  
PERFUSIONIST. HE OR SHE IS THE  
PERSON WHO RUNS THE HEART-  
LUNG MACHINE, WHICH IS A VERY  
COMPLEX PIECE OF EQUIPMENT.

“I MAY GIVE A COMMAND HERE.  
BUT I’M ACTUALLY FACED AWAY  
FROM THE PERFUSIONIST. THEY  
CAN’T SEE MY MOUTH, THEY CAN’T  
READ MY LIPS AND I’M TALKING  
DOWN INTO THE WOUND.”

SO PERHAPS REARRANGING  
WHERE PEOPLE STAND COULD  
IMPROVE COMMUNICATION.

**Thoralf Sundt**  
**Mayo Clinic Surgeon**

“WE THINK THAT THERE’S A LOT  
WE CAN LEARN BY WATCHING  
HOW THE TEAM FUNCTIONS.”

MAKING SURGERY SAFER FOR  
THOSE WHO PUT THEIR LIVES IN  
THEIR MEDICAL TEAM'S HANDS.  
FOR MEDICAL EDGE, I'M VIVIEN  
WILLIAMS.

Anchor tag:

Dr. Sundt says some of the other issues that he noticed from observing how his operating room functions include distractions caused by beepers going off and people walking into the room.

He hopes to use information from the study to make operating rooms safer and more efficient. He also says that by encouraging other members of the surgical team, such as nurses and technicians, to speak up if any issues arise will add to safety in the OR.

For more information on human factors and quality care, visit our Website at...**[STATIONS: Per the licensing agreement, please provide a link from your station's website to <http://www.mayoclinic.org> or voice tag "mayoclinic.org" for more information.]**