Crew Resource Management (CRM) in Aesthetic Surgery

What can we learn from aviation?

Claude Oppikofer, MD

Editor's Note:

To learn some of the basics of Crew Resource Management, (CRM) we turned to the online encyclopedia Wikipedia. They offered the following description:

"Crew Resource Management (CRM) encompasses a wide range of knowledge, skills and attitudes including communications, situational awareness, problem solving, decision making, and teamwork; together with all the attendant sub-disciplines which each of these areas entails. CRM can be defined as a management system which makes optimum use of all available resources—equipment, procedures and people—to promote safety and enhance the efficiency of flight operations.

CRM is concerned not so much with the technical knowledge and skills required to fly and operate an aircraft but rather with the cognitive and interpersonal skills needed to manage the flight within an organized aviation system. In this context, cognitive skills are defined as the mental processes used for gaining and maintaining situational awareness, for solving problems and for making decisions. Interpersonal skills are regarded as communications and a range of behavioural activities associated with teamwork. In aviation, as in other walks of life, these skill areas often overlap with each other, and they also overlap with the required technical skills. Furthermore, they are not confined to multi-crew aircraft, but also relate to single pilot operations, which invariably need to interface with other aircraft and with various ground support agencies in order to complete their missions successfully.

CRM training for crew has been introduced and developed by aviation organizations including major airlines and military aviation worldwide. CRM training is now a mandated requirement for commercial pilots working under most regulatory bodies worldwide, including the FAA (U.S.) and JAA (Europe). Following the lead of the commercial airline industry, the U.S. Department of Defense began formally training its air crews in CRM in the early 1990s. Presently, the U.S. Air Force requires all air crew members to receive annual CRM training, in an effort to reduce human-error caused mishaps."

Just imagine one Boeing 747 crashing every day of the year, killing all its passengers and crew! That is unthinkable, yet, it corresponds to the number of yearly fatalities due to human error in medicine in the USA. However, "fatalities" does not mean "fate;" these deaths and the countless "near misses" are avoidable!

Aviation has managed to avoid accidents through **Crew Resource Management (CRM),** the concept of maximizing effectiveness and safety by optimal utilization of all available resources of a team, especially the human factor. The airline industry considers CRM one of the most effective safety programs ever launched, and safety is THE most critical point for the survival not only of the passengers, but of the entire industry. *In fact, U.S. airlines have been able to announce two consecutive years (2007, 2008) without fatality for the first time in history.*

Just imagine one Boeing 747 crashing every day of the year, killing all its passengers and crew! That is unthinkable, yet, it corresponds to the number of yearly fatalities due to human error in medicine in the USA.

Since a surgery team acts and works much like a cockpit crew in an airplane, what works for them will work for us. Where can we learn from them? The difference is what I like to call "Aviation Culture." It is characterized by three closely linked key elements:

- Briefing/debriefing
- Working with checklists
- Dealing with errors

Every mission is preceded by a structured **briefing** in order to set every member of the team to the same level about the things to do, the way to do them, but also about likely contingencies. An important part of a briefing is the encouragement to all team members to speak up if they are uncomfortable or feel unsafe with any part of the mission. The **debriefing** is just as important. It can be very short but will answer the questions: what did we do well? What could we have done better? What lessons can we learn?

Checklists are not just a plan telling what to do, but in most cases a structured way to verify if what is/was done is correct. Especially in routine actions, checklists are an important safety element, whereas in extraordinary situations, they may be indispensable for survival.

Dealing with errors is probably the most important cultural factor. The question, **"What** is wrong?" is so much more important than **"Who** is wrong?" We must recognize that a surgeon can err—as can any other member of a team. If an error occurs, the effort must not be to punish as is often done in medicine. The most important question has to be how to avoid this error in the future. And when the answer is found, it has to reach everyone who could be in the same situation.

ASAPS has placed great emphasis on a "Culture of Safety." This requires **leadership,** as we are responsible for a culture of safety, in which programs like CRM play a crucial role. CRM programs are available from different sources and the effort of introducing them will pay back immediately. Fewer errors means less waste, less waiting time, less secondary (free) revision procedures. CRM is an effective personnel strategy to produce staff satisfaction, therefore less costly turnover. Operational excellence equates to patient

Continued on Page 11

CRM in Aesthetic Surgery

Continued from Page 10

satisfaction. It allows us to deliver our services at lower cost and thus give us a competitive advantage in challenging economic times.

An example of CRM as an answer to risk in my own practice: I feel that the quality of my medical work is reduced when I am under time pressure. When I am behind in my schedule, I may have a tendency to speed up the next consultation. Without doubt, the patient will notice this, and may eventually think I am so stressed that she/he better look for another surgeon. Or could it be, that the last post-op hematoma I had was due to the fact that I was already an hour late and may thus not have been as meticulous as required with hemostasis? Technical tools to manage patient calls and appointments are useful. But considering the risk involved, a culture allowing my receptionist to keep me from doing an unnecessary phone call when I am late already, or my scrub nurse to openly tell me that she thinks the wound is still bleeding too much, is of even greater importance.

In aviation, the pilot is physically threatened just the same as his passengers. This may explain why safety measures such as CRM are better accepted here than in medicine. Motivation is certainly higher when your own survival depends on the best use of your team's resources. It is an interesting intellectual exercise for us to think of ourselves as pilots sitting in the same aircraft as our patients, whenever we do something concerning their safety. **Would we act the same if acting the wrong way would mean "crashing" together with the patient?**

ASAPS has a long history of innovation and preeminent leadership in patient safety in aesthetic surgery. The process of CRM is a nice fit with existing programs.

Claude Oppikofer, MD is an International Aesthetic Society member practicing in Switzerland.