Multidisciplinary training in the future of surgical education

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Will I actually be ready to face my first surgical on call night?
It is the question that haunts every young specialist when, once he has completed his surgical training, he is alone, often by night to face the unpredictable.
It is a question of ethical and intellectual honesty to understand that learning curve is something quite different from being transformed from a surgeon by day into a superhero by night.
The training gap in Italy and at the same time the typology of patients (obesity, age, gunshot wounds, and stab wounds) who come to our Emergency Departments have exasperated the need to acquire specific skills among Surgeons.

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Let's take a quick look at the situation in Italy: the university training of surgeons involves 5 years of residency, including internal and external rotations and an experience abroad lasting a variable number of months..
But at the end of this path each of us has asked or will ask themselves: am I ready?
"Thank you, Doc Fogato!»….this is what a young fellow said some months ago after I allowed him to place a chest tube for a spontaneous pneumothorax; «this is my first time as first surgeon» said Martina, my young colleague (34 years old!) after I helped her for a Hartmann procedure.
So, this is what happens daily in our operating rooms and surgery departments. Apparently in residency programs there is no adequate hands on training in emergency surgery because it is impossible to predict what the actual caseload will be in an emergency department and because the number of trauma cewnters where critically ill patients can be treated is limited.
So where can young doctors get suitable training and how can opportunities for continuing professional development be guaranteed so that doctors can keep their knowledge and skills up to date?

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Patients who need first aid services are getting older than in the past and therefore many have multiple chronic diseases (polypathological patients); there is an increase in the number of obese patients, there is an increase in violent crime which result in an increase in injuries like gunshot wounds.
A multidisciplinary consensus developed by ACOI, SICUT. SIMIT, SIARTI, SIRM, WSES, GMML reports that over 35% of patients operated on in different hospitals are cases of great complexity and surgical risk for which surgeons need the knowledge and experience gained in the management of critically ill surgical patients and specific techniques of damage control and rescue surgery especially in cases of severe postoperative morbidity.
Management of surgical emergencies should not only be an appendix to routine activities but a key part of the armamentarium of well- trained surgeons.
For the scientific societies and the Academic world it becomes fundamental to offer the appropriate and certified instruments, knowledge and skills.
I am a general surgeon and have been working for over 10 years at the General Surgery Unit of a small city in the north of Italy.
I believe, the same as that of the vast majority of young surgeons in Italy: 5 or 6 years as a more or less active spectator (depending on the destination ward) in University hospitals, a few months for external training in hospitals, the experience abroad, the encounter with a sort of guardian angel who believes in your abilities

and in a few months gives you the opportunities to learn that the residency program had not provided.
And then? Then the adventure begins. Initially, we are so caught up in enthusiasm for the workplace, that perhaps a significant issue passes into the background: will I actually be ready?
Urgent cases, and trauma cases in particular, do not offer much scope for concrete training precisely because of the unpredictability of critically ill patients' clinical condition and also because of the number of facilities available for the adequate management of these patients.
I faced my first real acute abdomen in the small hospital in Lugo di Romagna, during my third year of residency, then nothing until the end of my training course.. all of a sudden from holding the valves you pass to the role of first operator.
The rest is "learned" in the field when all of a sudden from holding the retractors you pass to the role of first operator. And I wonder, is it ethically correct not to mention the consequent risks?
We need the missing link, a bridge to future so that it is not good or bad luck that governs our work.
Training must therefore be entrusted to those who, in addition to mastering knowledge, are able to transmit it.
I have been a SICUT member for a couple of years and some time ago I came across the LESC course brochure (live emergency surgical course on animal model) almost casually and then I attended the Cadaver Lab. I was struck by the type of surgical maneuvers proposed.
Intestinal resections, fundoplication, adrenalectomy, liver resection on animal model, belong to the curriculum each of us is familiar with.
But the control of bleeding in hepatic laceration, the control of hepatic hilum and aortic clamping to the esophageal iatus, in addition to thoracotomy, enlargement in clamshell, thoracic aorta clamping, hemostasis of peripheral lung injury and repair of beating heart cardiac injury had not been part of my educational background.
I approached it with spectatorial curiosity and found myself unafraid to expose myself, to reason aloud, to test myself ...
I feel that often,; in courses organized in this way, there is a kind of performance anxiety, especially if there is a disparity in age and experience among the students which obviously does not contribute to the success of the event.
Here is another aspect to consider: for the first time I met colleagues of different ages, coming from different work situations but all interested in fulfilling that need for completeness of training that unfortunately is too often neglected .
There is time for the exchange of opinions, information, doubts, ideas in the theoretical sessions but also in convivial moments.
Technically, what did I bring home? I mastered the concept of "urgent action" I realized the need to create in my head a sort of check list to be followed slavishly before approaching urgent / emergency cases.
I want to emphasize the importance of "good teaching"; the fundamental turning point reached through attendance at courses is the realization that knowledge about and correct performance of a procedure can make a surgeon a good surgeon but the correct surgical timing in an emergency setting makes an emergency surgeon a good emergency surgeon.
Furthermore, a technically refined and complex intervention is certainly not enough to save the patient's life.
I can only add that human anatomical preparation is absolutely essential, especially as regards the approach to vascular structures. The reperfusion of the vascular tree used for the control of thoracoabdominal vascular lesions treated in the Cadaver Lab adds a very important didactic tool; 3-dimensionality.
I believe that ideal training should include these courses or similar courses (especially now that in Europe emergency surgery has lost the dignity of being an autonomous branch of surgery) and that they should moreover serve to update the training of the specialist without interruption up to the end of his/her career. This is something we owe primarily to the patient but also to our intellectual honesty as health professionals.
... *"ah, by the way, did you notice that wrinkled old woman wrapped in her black cloak with a hood, who is holding a large sickle in her hand, watching you from a corner of the operating room?"* (from "Top Knife", A. Hirshberg, K. Mattox).
This quote is not meant to discourage one but is an invitation to move, to move intellectually, to confront, to contradict, to grow, to question oneself.
I quote Top Knife because it is a small book that I would warmly recommend to young surgeons (in my hospital, in Rovigo, we give it to every young colleague

who completes his external rotation with us). It is not a bible or even a compendium, I want to consider it as a notebook that, without stylistic frills, could replace a good friend who gives good advice in time of need.
The real superpower of the emergency surgeon is the mental checklist that quickly leads him/her to make wise decisions:
How far can I go?
Do I have to stop and centralize?
I go on, convinced that I can do it ... .. am I prepared to do it?
I conclude with the enthusiasm that this experience has given me: do not be afraid, young colleagues, do not feel abandoned and at the same time do not have the audacity to pretend to be the surgeons you have not yet become.
"Human beings who are almost the only ones with the ability to learn from the experiences of others are also extraordinary for their low tendency to do so" (D. Adams, "Hitchhiker's Galactic Guide")

Riassunto

Sarò effettivamente pronto ad affrontare la mia prima notte di guardia chirurgica?
È la domanda che assilla ogni giovane specialista quando, una volta completato il proprio training chirurgico si trova solo e spesso di notte ad affrontare l'imprevedibile.
È una questione di etica ed onestà intellettuale comprendere che la learning curve è cosa ben diversa dal trasformarsi da chirurgo di giorno in supereroe di notte.
La lacuna formativa in Italia e al contempo la tipologia di pazienti (obesità, età, ferite da arma da fuoco, da arma bianca) che afferiscono ai nostri Pronto Soccorso hanno esasperato nei professionisti la necessità di acquisire competenze specifiche.

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