



SAPIENZA
UNIVERSITÀ DI ROMA



© Author(s)
E-ISSN 2531-7288
ISSN 0394/9001



Change your attitude! How much and how many times physicians' empathy for patient's pain reshaped medicine (and surgery)

Luca Borghi

Università Campus Bio-Medico di Roma, Italy

MEDICINA NEI SECOLI

Journal of History of Medicine
and Medical Humanities

37/2 (2025) 27-42

Received: 11.09.2024

Accepted: 16.12.2024

DOI: 10.13133/2531-7288/3160

Corresponding Author:

l.borghi@unicampus.it

ABSTRACT

Physicians' empathy and patient's pain

In this paper, I try to reconstruct and revive some historical events that illustrate how much empathy, taking patients' pain and suffering seriously, and trying to eliminate or reduce such sufferings, were not at all irrelevant and superfluous do-goodism on the part of the doctor or researcher. On the contrary, they often offered the key to addressing and solving problems that appeared to be unsolvable until that moment. Six key figures and facts of 19th and 20th-century medicine and surgery emerge here: the invention of surgical anesthesia; the first woman doctor of modern times; the rise of plastic surgery; the introduction of pacemakers in cardiac surgery; and the two founders of the hospice movement and pain medicine. As far and diverse as these revolutionary topics can look, a common thread unites them: a special sensitivity to the patient's pain. And that sensitivity historically proved to be highly fruitful also scientifically and technically.

Keywords: Empathy - Gender medicine - Palliative care - Pain medicine

Can there be a greater satisfaction
 than to assuage pain and restore health to the sick?
 Can there be a worthier ambition
 than to add a new stone, however small,
 to the never-completed edifice of knowledge?
 (Aldo Castellani, *Autobiography*)

French surgeon Jacques-René Tenon (1724-1816) thus described the surgery ward of the famous Hôtel-Dieu in Paris in his well-known *Mémoires sur les hôpitaux de Paris*, published just before the start of the French Revolution¹:

The operation ward where they trephine, cut the stone, amputate members contains those who are being operated upon, those who will be operated upon, and those who have already been operated upon. The operations are performed in the center of the room. One sees the preparations, one hears the cries of the sufferer. The one who will be operated upon tomorrow sees his future sufferings. The one who has passed through this ordeal is shaken by these cries of anguish. He undergoes these emotions in the midst of inflammation and purulence. Thus his recovery and life are endangered².

It seems incredible today that such disregard for patients' physical and psychological suffering could even be considered normal, let alone desirable, for effective medical-surgical practice. Yet there were already those, like Tenon, who perceived the aberration of such attitudes and organizational behaviors, albeit without knowing or being able to indicate an alternative path, a different way of doing things.

There still are authors today who, using their great clinical and educational expertise, fight to ensure empathy and human touch are not overlooked and lost in clinical practice, research for innovation, and training new generations of doctors and other health professionals.

The worrying thing, however, is not so much that such interventions struggle to find space in the medical-scientific literature, but rather that even when they do³, they are mostly read and appreciated by middle-aged or elderly readers (i.e. full of experience), while younger people fail to notice them or comprehend their importance⁴.

In this paper, I will attempt to reconstruct and revive some historical events that illustrate how much empathy, taking patients' pain and suffering seriously, and trying to eliminate or reduce such sufferings, are not at all irrelevant and superfluous do-goodism on the part of the doctor or researcher. On the contrary, they often offer the key to addressing and solving problems that appeared to be unsolvable until that moment. I will start to briefly summarize the well-known history of how surgeons moved from considering their patients' pain a defining and inevitable aspect of their activity to the game-changing invention of anaesthesia. Then, I'll move to a sort of *ante litteram* case of gender-medicine (Blackwell), where the peculiar way of feeling pain by female patients became one of the driving forces for the entrance of the "fair sex" in

the until-then-exclusively masculine world of medicine. Analogous cases of doctor-patient empathy will be finally taken into consideration to show their relevance in the 20th century evolution and shaping of medical fields as diverse as plastic surgery (Gillies), paediatric cardiac surgery (Lillehei), palliative care (Saunders) and pain management (Bonica).

All of them bring to mind that famous quote, often spuriously attributed to Albert Einstein (1879-1955), which goes: “Everyone knew it was impossible until a fool who didn’t know came along and did it”. Except that, in our case, the ‘fool’ must also be empathetic and compassionate.

Surgeons without pain

The story of surgical pain and how it was overcome is the archetype of all the examples of how a changed attitude of doctors and surgeons towards the suffering of their patients can change the course of medical history.

Surgical pain had not only been considered inevitable for millennia but had even ended up shaping the very profession of surgery, thus checking its evolution. One of the best French surgeons of the first half of the 19th century, Alfred Velpeau (1795-1867), wrote:

A cutting instrument and pain in operative medicine are two ideas that never present themselves separately to the mind of the patient, and it is necessary for us the surgeons to admit their association⁵.

The point of view of many physicians of that time was not very different. Scottish physician and prolific medical writer, James Copland (1791–1870), stated:

Even were the reports of persons who felt no pain during an operation credible, this would not be worth the consideration of a serious-minded doctor⁶.

Of course, they were all wrong and the ‘impossible’ happened quickly, during the 1840s. A handful of North American dentists, physicians, and surgeons started to make their patients inhale gases with narcotic properties to make them unconscious during dental and surgical procedures. It worked so greatly that a no-holds-barred fight for priority broke out among those pioneers of what we now call anaesthesiology. Each of them wanted to take full credit for that decisive invention. That story has been told and celebrated many times and in many different forms⁷.

But what matters the most is that, as a consequence, surgery itself changed completely and forever. For centuries, even for millennia, the best surgeon had been the quickest and the most reckless one. Nonetheless, his range of action was very limited by this lack of time: no patient could endure an excruciating pain for more than a very few minutes and surgeons had to be content with amputating limbs and stitching up

wounds. With the anaesthetic gases, surgeons had plenty of time and the best ones – now, those most precise, accurate and imagining among them – started to design new procedures and to open completely new chapters in surgical science⁸.

That new focus on making surgery painless proved to be all but trivial and aimless.

Why did Elizabeth Blackwell become a doctor?

The female predominance in the medical and healthcare world is certainly no longer news. In university classrooms, one sometimes gets the impression that it is almost necessary to prevent the marginalization of the male component. Even though top positions in hospitals and medical schools are still overwhelmingly held by men, there is a strong sense that it is only a matter of time and demographics before the situation reverses itself.

But are women, on average, better doctors or surgeons than men? Some argue that they are, even from a technical point of view⁹. In any case, it may be interesting to remember the first of the two reasons that led English-born Elizabeth Blackwell (1821-1910) to challenge the taboo of medicine as an exclusively male profession and to become, in 1849 in the state of New York, the first female doctor of modern times. That first and fundamental reason was precisely the hope placed in her by some that women would be able to take care of and alleviate the pain of the sick more effectively than men¹⁰.

She told that herself in her celebrated autobiography:

It was at this time [1845] that the suggestion of studying medicine was first presented to me by a lady friend. This friend finally died of a painful disease, the delicate nature of which made the methods of treatment a constant suffering to her. She once said to me: "You are fond of study, have health and leisure; why not study medicine? If I could have been treated by a lady doctor, my worst sufferings would have been spared me"¹¹.

Elizabeth Blackwell was not satisfied with her medical diploma and decided to go and specialize in Europe, where she attended the best medical schools of the time (Paris, London, Edinburgh...). For a while, she even tried to become a surgeon but an accident damaged her sight in one eye and she had to give up on this project.

Back in New York, she opened a dispensary for poor women and later, in 1857, a hospital: the *New York Infirmary for Women and Children*. It was quite a place for 'firsts': among the very first hospitals in the United States dedicated to women's diseases; the first one in the world completely managed by women; the site of the first medical school for women; the first medical school to activate a chair in hygiene; the first hospital to provide practical training to a black woman-physician; the first medical school to make compulsory a four-year curriculum of studies.

The institution created by Blackwell continues to operate, after more than 160 years, under its current name, New York-Presbyterian Lower Manhattan Hospital. In 2018,

some influential New York women unveiled a memorial plaque in Manhattan to mark the hospital's original location and to remember Blackwell's work¹².

But what else can we say about Blackwell's first motivation about the possibility that a female doctor would be more capable of taking care of and alleviating the suffering of the sick? For sure, she never lost that attitude and that priority.

In July 1845, that is even before she undertook formal medical education, while studying privately with an elderly physician as was common in those days in the United States, she wrote to her mother:

I have just performed my first professional cure, and I am already dubbed Dr. Blackwell by the household. I mesmerised away a severe headache that afflicted Miss O'Heara, a kind-hearted, childlike, black-haired little old maid, the favourite of the family and especial pet of the children. She had just recovered from a very severe attack of illness, and great suffering in the mouth from calomel, which made her declare that no physician ought to receive his diploma till he has been salivated, that he may know the torture he is inflicting on his patients. I went into her room last night and found her suffering from an intense throbbing headache. I offered to relieve her, half doubting my own powers, never having attempted anything of the kind; but in a quarter or half an hour she was entirely relieved, and declared some good angel had sent me to her aid¹³.

Forty-five years later, when she was an international celebrity and could happily cite the three thousand "registered lady-doctors" who practiced medicine in the United States alone, her focus remained the same. In an address given in 1890 at the opening of the winter session of the London School of Medicine for Women, she stated:

There is no line of practical work outside domestic life, so eminently suited to these noble aspirations [of women] as the legitimate study and practice of medicine. The legitimate study requires the preservation in full force of those beneficent moral qualities—tenderness, sympathy, guardianship—which form an indispensable spiritual element of maternity; whilst at the same time, the progress of the race demands that the intellectual horizon be enlarged, and the understanding strengthened by the observation and reasoning which will give increased efficiency to those moral qualities. The true physician must possess the essential qualities of maternity. The sick are as helpless in his hands as the infant. They depend absolutely upon the insight and judgment, the honesty and hopefulness of the doctor. The fact also, that every human being we are called on to treat, is, like the infant and the child, soul as well as body, must never be forgotten. Successful treatment requires the insight which comes from recognition of these facts, and the sympathy that they demand. In the infinite variety of human ailments, the physician will find that she must often be the confessor of her patient, and the consulting room should have the sacredness of the confessional; and she must always be the counsellor and guide¹⁴.

In short, whether female doctors on average are more capable than male doctors of sympathizing with the patient's sufferings and giving a better answer to them, and whether this propensity is as strongly linked to the maternal instinct as Blackwell claimed, are issues that today's gender medicine should explore carefully and thoroughly.

What is undeniable is that without this sensitivity on the part of Elizabeth Blackwell, the female contribution to medicine and pain relief would have probably been postponed indefinitely. Of course, a compassionate and sympathetic attitude towards the patients' different kinds of pain is not an exclusively female feature as the following example is going to prove.

Sir Harold Gillies, the Facemaker

Psychological suffering can affect as much as, and perhaps more than, purely physical one. Therefore, I will try to present an example of how much empathy with this type of suffering can also produce decisive changes in the most “material” part of the healing arts, that is, in surgery.

During the First World War, the very nature of trench warfare, where heads and faces were the most frequently exposed bodily parts, severe facial injuries quickly became the permanent legacy of thousands and thousands of soldiers¹⁵:

Bodies were battered, gouged, and hacked, but wounds to the face could be especially traumatic. Noses were blown off, jaws were shattered, tongues were torn out, and eyeballs were dislodged. In some cases, entire faces were obliterated¹⁶.

And yet many of those disfigured soldiers survived. Albeit in whispers, they were often called ‘monsters’. It is easy to assume that for most of the doctors and surgeons who had to deal with that type of wounded, their deformities and their resulting psychological suffering were merely a painful but inevitable side-effect of the war. And that all things considered, those wounded soldiers should rather thank heaven that they were still alive. But there was one surgeon for whom stating the obvious was not enough. His name was Harold Gillies (1882-1960) and, at the beginning of the Great War, was only 32. An otolaryngological surgeon, he volunteered early in 1915 and was immediately sent to France to work in a base hospital at Wimereux, not far behind the battle lines¹⁷.

He started to deal with many facial wounds caused by the devastating effects of shrapnel. The problem was both dramatic and fascinating and Gillies started to collect as much expertise as he could from colleagues and a few books. He was also very upset in understanding that the main aim of surgeons on both sides of the war front was to patch up somehow the wounded soldiers to send them back to the war mincer as soon as possible.

Even more: many surgeons treated the aesthetic problems as something below their professional dignity. On the contrary, Gillies started to empathize with “the thousands of wounded so disfigured that their living would be more of a pain to them than their dying”¹⁸. He started to think and advocate the establishment of a permanent specialist unit in Britain dedicated to facial reconstruction, where dental and plastic surgeons could collaborate in multidisciplinary teams¹⁹.

He was lucky enough to meet with some open-minded and farsighted superiors and his project came to life in a surprisingly short time, even for the always hurried war times. In January 1916, Gillies was entrusted with a ward at the Cambridge Military Hospital at Aldershot, and after less than a month, he could perform the first facial reconstruction surgery²⁰.

Gillies had to balance different and often contradictory duties. As he said in an address to the Medical Society of London:

I would have you know that my first duty is to the Army, and that this involves the sending back to duty as many soldiers as possible in the shortest time. My second obligation is to the patient and to do the best for him that in me lies, whether he is to be a spectacular success or merely a poor, patched-up pensioner; and my third duty is to contribute as freely as possible to science and to the knowledge of surgery²¹.

His contributions “to science and to the knowledge” of plastic surgery would have become invaluable, but once again the ‘human factor’ in his approach to the patient was even more effective. There are many testimonials of him as “a man of steel nerve and a great heart”, always cheerful, inspiring confidence, and able to hide any uneasiness in front of a severely disfigured human being²². Somebody wrote of him in amazement:

[he] even dressed my wounds himself and visited me at night to see if I was comfortable, though he was up to his eyes in work²³.

Over the next forty years, Sir Harold Gillies protagonized the golden age of plastic surgery with many scientific innovations, tens of thousands of surgical procedures, a lot of educational activities in the field, and many ground-breaking publications, epitomized by his 1957 two-volume treatise *The Principles and Art of Plastic Surgery*, written in collaboration with Ralph Millard (1919-2011).

But Gillies’ main legacy stayed in the gratitude and memory of his former patients. One of them wrote him after many years:

I don't suppose for one moment that you remember me, for I was only one of many, but that matters little, for we remember you²⁴.

The trailblazing career of Gillies was running parallel to the rise of another iconic area of contemporary surgery: cardiac surgery.

The children of Walton Lillehei

The rise and flourishing of cardiac surgery certainly was one of the most amazing achievements of 20th-century medicine. When the clinical use of the cardiopulmonary bypass finally defeated the long-lived taboo of open-heart surgery, in the early 1950s, pioneers of the field had to face the challenging problem of intra- and post-

surgical cardiac arrest. In up to twenty percent of the patients, the shock caused by the invasive surgical procedures resulted in the often-fatal complication known as ‘complete heart block’²⁵.

Physiology lab experiments had already demonstrated that normal cardiac pacing could be restored through regular electrical impulses. In 1952, Paul Zoll (1911-1999), at Harvard, was the first to try clinical applications of such experience with a machine that “transmitted electrical stimuli to the blocked heart by pacing the skin at the front of the heart”²⁶. But Zoll-type AC-driven ‘pacemaker’ was bulky, limited in its portability and especially painful.

If receiving 60 to 80 small electroshocks per minute through the chest’s skin was very stressful for adult patients, it was completely unbearable for children. Like the ones in the care of Walton Lillehei (1918-1999), one of the pioneers in children’s cardiac surgery in Minneapolis. To reduce their sufferings, with the help of Vincent Gott and William Weirich, Lillehei developed the idea of connecting the wires of the stimulator directly to the heart of his little patients, whose chest was already open for the surgical procedure:

On January 30, 1957, another of Lillehei’s patients developed a heart block. Lillehei called Weirich (not Gott) for the stimulator, which he connected to the patient’s heart. This was the very first patient whose heart was ever stimulated by an electrode²⁷.

The direct electrical stimulation of the heart muscle was not only painless; it also required a much lower voltage²⁸. On the other hand, when artificial pacemaking was no longer required, the wires could be easily extracted through the wound without the need to re-open the patient’s chest²⁹. It was already a win-win solution. But things developed even further.

After some months, Lillehei tragically lost one of his little patients during a three-hour blackout that affected the entire city of Minneapolis. Lillehei’s hospital had emergency power generators for operating rooms and intensive care units, but not for the ordinary rooms. One of the children, who was connected to an AC-driven pacemaker, died and the surgeon could not find peace. Lillehei turned to a young electrical engineer, Earl Bakken (1924-2018), who was doing some works of maintenance at the hospital, and asked him if he could do any better especially as to the pacemaker’s portability and power supply. Bakken, who owned a small and unknown firm called Medtronic based in a garage, accepted the challenge and in a few days presented Lillehei with a small battery-powered pulse generator. Lillehei, who didn’t want to lose any other patient, without any delay, placed it around the neck of a child who had recently had heart surgery. It worked³⁰.

Once again, a doctor’s focus on reducing the pain and stress of his patients - especially the youngest ones - suggested a procedural innovation that later paved the way to one of the most revolutionary, widespread, and influential bioengineering tools of modern

medicine: the portable, later implantable pacemaker, which since then saved lives by the millions³¹.

But medicine, surgery and engineering are not the only professional triad proving to be effective for our discourse. Also nursing, social work and medicine can be equally productive, especially when condensed in one person.

Cicely Saunders and the foundation of the hospice movement

Cicely Saunders (1918-2005), the founder of the Modern Hospice Movement³², is already a legend at least for those who share a more or less direct experience of such healthcare facilities focused on the terminal care called hospices. This strong-minded woman, who to achieve her goals became in succession a nurse, a social worker, and a physician, focused her care for sick people, especially the terminally ill, on relieving suffering and on providing all-rounded care³³. As her first biographer put it:

There was certainly a desperate need for more skilful and more continuous pain relief, but that was not all; there were other needs too, spiritual, emotional and social; if they were met in a context of real concern for the individual person, it might become possible to die peacefully, even happily³⁴.

This was completely unheard of in the late 1940s and early 1950s. It was then that Saunders started to work at St. Luke's, 'A Home for the Dying Poor' founded at the end of the 19th century in Bayswater, London³⁵. The "sanctity of the individual", preached there, was not a new idea for her. What was a true revelation for her was the system of 'regular giving' the analgesics in use at St. Luke's at least since 1935:

Now, for the first time, she saw patients with both their mental and physical pain relieved so that they were relatively comfortable, yet alert, almost until the end. This was achieved by giving pain-killing drugs at regular intervals, before the pain reasserted itself, instead of waiting until the patient was crying out in such pain that another dose was given³⁶.

That obvious but for some reason isolated approach became the foundation of Saunders' methodology in using painkillers and one of the very cornerstones of the hospice movement. In 1960, she was already qualified enough to publish her ideas on this topic in a prestigious journal like *Cancer*:

Most patients dread the pain of cancer more than anything else, and most have the idea that it is inevitable. This is not true, for intractable pain is the exception rather than the rule. (...) Pain with spontaneous variations needs drugs given promptly whenever it begins. Continuous pain and discomfort need regular analgesics. In neither case should pain be allowed to take control. If variable pain is at all severe an analgesic should be given regularly and more added between times if need be. It is the author's experience that doses should be started and given at regular intervals as soon as patients are worried by pain. It is unsafe to rely on them to ask, for either they will try and wait too long — and pain itself is the strongest antagonist to all these drugs — or else they will ask too often and addiction may become a problem³⁷.

But for Cicely Saunders, pain control was only a precondition for ensuring that the terminally ill patient had a quality of life that went well beyond an acceptable level of ‘vital signs’ such as temperature, blood pressure, heart and respiratory rate, etc. In the late 1970s, she could state authoritatively:

*Vital signs in a ward specializing in the control of terminal pain include the hand steady enough to draw, the mind alert enough to write poems and to play cards, and, above all, the spirit to enjoy family visits and spend the last weekends at home*³⁸.

Cicely Saunders’ insights and experiences on pain management and comprehensive care for the terminally ill proved to be correct as well as revolutionary and far-sighted. She had the opportunity to notice, a few years before her own death, that the first hospice opened in July 1967 in London, St. Christopher’s, had already given origin to what could be rightly defined as “a global network”³⁹.

Today, hospices and palliative care in general can be considered the best and most appropriate health-caring approach to terminal diseases and end-of-life management⁴⁰.

The wrestler who invented the science of pain management

It is noteworthy that the very first reference in the very first medical paper published by Cicely Saunders, ‘Dying of Cancer’ (1958), was John Bonica’s *The Management of Pain*⁴¹, published five years before in 1953. Bonica (1917-1994) was another of those characters more likely to be found in fiction than in reality. Sicily born and immigrated to the US with his family when he was 10, after his father died in 1932 he helped to sustain his family as a shoe shiner and a newspaper seller⁴².

But he was strong as a bull. So Bonica became a professional wrestler with the nickname of Johnny “Bull” Walker. He was so good that he even became world champion of the light heavyweight. But, in the meanwhile, he decided to study medicine and graduated from Marquette University School of Medicine in 1942. Immediately after, he married Emma Louise Baldetti and started a war-accelerated internship in anaesthesiology in New York⁴³.

His progressive clinical and scientific focus on pain had deep personal roots. Professional wrestling made him a chronic pain sufferer. Then, he almost lost his wife during the delivery of their first daughter due to a poorly administered anesthetic. Finally, in the last months of World War II he served in Fort Lewis, the largest military hospital of that time, where he took care of many cases of severe pain consequent to war wounds⁴⁴.

He quickly developed some short training programs for physicians and nurses in anaesthesiology, with special focuses on regional anesthesia in surgical and obstetric cases, and the importance of an interdisciplinary approach to pain. He was shocked to notice how little and scattered information about pain and its management was available to the average physician in the medical literature. On the other hand, he was be-

coming more and more conscious of the fact that pain is universal and is the primary reason why patients seek the counsel of physicians and other care providers⁴⁵.

If that was the case, the role of physicians and care providers became crystal clear:

The proper management of patients with pain remains one of the most important responsibilities and obligations and can be the crowning achievement of biomedical scientists and clinicians⁴⁶.

In 1953, as we already mentioned, he laid the foundation stone of pain medicine by publishing the book which is considered a sort of “Bible” of the field: the 1500-page treatise “The Management of Pain”, which was subsequently translated into several languages⁴⁷. From that moment on, John Bonica’s resume was as rich and prestigious as it could be: clinical and scientific contributions, international networking, educational and training activities, medical societies’ leadership... But what was most impressive and meaningful was his main and constant focus on each and every patient. He made it very clear himself in 1993, during a long and fascinating oral interview by John C. Liebeskind:

Focus. It’s a biased thing for me because I looked at pain as a whole problem and I went all, you know, persistent, persistent, persistent. And I think, I mean, even if you fail, you’ve got to continue, and I’m glad that I didn’t give up in the late ‘60s, because I think I would have been, I think, disappointed with my life. So I think that, in the clinician, I think that – what is the clinician’s most important viewpoint, in management of patients with complex pain problems? And my view is that, first of all, he’s got to be a human being with compassion, because if you, and I’ve seen, we’ve both seen people, if you go to a doctor and you say, “Tell me about your pain” and so forth and so on, very cold manner and you write it down, you don’t look at the patient when he’s talking to you, that’s bad business. I mean, while he’s talking to you, you better try. (...) Focus on him. And sometimes you have to touch him⁴⁸. (...) Touch him and say I understand how he felt and how bad it is. And then, you know, continue to follow through. And very important: never, never, never give the patient an idea that you’re too busy and she’s taking too much time, or, you know, some people will go on and on and on, and you have to be diplomatic how to cut her short and change the subject. Say, “You know, that’s very interesting, but I think there’s another aspect of the problem that I’d like you to talk about.” So those are the things⁴⁹.

This is how he became the father of a completely new medical specialty, pain medicine, and more important this is how he changed the life of millions and millions of patients.

Conclusion

Many other similar cases could be told. Sympathy for those who suffer and the desire to bring them relief in any way possible has always been the hallmark of the outstanding protagonists of medical and surgical history.

William Osler (1849-1919), the noble father of American medicine, was extraordinarily brilliant and playful. His practical jokes were both admired and feared. But

when it came to a suffering child, he could not act with professional detachment. Although it has already been narrated many times, there is an expressive episode that deserves to be re-told. During Osler's final years in Oxford there was, in a family of friends, a severely sick child, with whooping cough and bronchitis, "who was unable to eat and irresponsive to the blandishments of parents and devoted nurses alike. Clinically it was not an abstruse case, but weapons were few, and recovery seemed unlikely":

Osler, on the way to graduation ceremonies in his academic robes, stopped and saw the child, and after a brief examination, peeled, cut, and sugared a peach, which he fed bit by bit to the enthralled patient. Although he felt that recovery was unlikely, he returned daily over a forty-day period, each time dressed in his doctors' robes, and personally fed the child some nourishment. Within a few days, the tide began to turn and recovery became evident⁵⁰.

Medical imaging, bio-robotics, telemedicine, precision medicine, artificial intelligence and all kinds of "omics" are great opportunities for physicians and surgeons. Provided physicians and surgeons don't lose the ability to meet their patients' eyes, to keep their hands, to listen and to speak leisurely to them. It is not easy, because schedules are tight, budgets are demanding and computer screens suck. But history can help them to remind that – as Mangione et al. put it - "they are Physicians, not Providers"⁵¹. And history also teaches, among many other things, that *good* doctors do the right things and do their duties. *Great* doctors do something else. Something more. Something not due. And God knows how much we still need *great* doctors.

Bibliography, notes and references

General bibliography

- Ackerknecht EH, *Medicine at the Paris hospital 1794-1848*. Baltimore: The Johns Hopkins Press; 1967.
- Bakken EE, *One man's full life*. Minneapolis: Medtronic Inc.; 1999.
- Benedetti C, Chapman CR, John J. Bonica. A biography. *Minerva Anesthesiol* 2005;71:391-6.
- Blackwell E, *Pioneer work in opening the medical profession to women*. London-New York: Dent and Dutton; 1914.
- Blackwell E, *The Influence of Women in the Profession of Medicine*. London: George Bell and Sons; 1889.
- Bonica J, *The Management of Pain*. 2nd edition. Philadelphia-London: Lea & Febiger; 1990.
- Borghi L, *The Monuments Men: In the History of Anesthesia, Too*. *Anesthesiology* 2015;122:521-523.
- Borghi L, *Sense of Humors. The Human factor in the History of Medicine*. Wroclaw: Amazon KDP; 2022.
- Carbonara L, Casale G, Bosetti C, Uggeri S, Armento G, Blasi M, De Marinis MG, Corli O, *Pain, symptoms and therapy satisfaction in adult oncologic patients at admission to palliative care: An Italian prospective, multicenter, observational study*. *Pain Pract*. 2024 Jun 10. doi: 10.1111/papr.13395. Epub ahead of print. PMID: 38855952.

- Clark D, Cicely Saunders. *A Life and Legacy*. New York: Oxford University Press; 2018.
- Cooper DKC, Open heart. *The radical surgeons who revolutionized medicine*. New York: Kaplan; 2010.
- du Boulay S, Cicely Saunders. *Founder of the Modern Hospice Movement*. London: Hodder and Stoughton; 1984.
- Fitzharris L, *The Facemaker. One Surgeon's Battle to Mend the Disfigured Soldiers of World War I*. Dublin: Allen Lane; 2022.
- Fülöp-Miller R, *Triumph over Pain*. London: Hamish Hamilton; 1938. p. 91.
- Gillies H, Millard DR, *The Principles and Art of Plastic Surgery*. 2 voll. Boston & Toronto: Little, Brown; 1957.
- Goor DA, *The genius of C. Walton Lillehei and the true history of open heart surgery*. New York: Vantage Press; 2007.
- Liebeskind JC, Oral History Interview with John J. Bonica, 9-12 March 1993 (Ms. Coll. no. 127.7); John C, Liebeskind History of Pain Collection, History & Special Collections Division; Louise M, Darling Biomedical Library. Los Angeles: University of California; pp. 155: https://www.iasp-pain.org/wp-content/uploads/2023/06/final_bonica.pdf (accessed 3 September 2024).
- Mangione S, Basile M, Post SG, Out of Touch. *JAMA*. 2024;5,331(9):729-730. doi: 10.1001/jama.2024.0888. PMID: 38334986.
- Mangione S, Mandell BF, Post SG, The Language Game: We Are Physicians, Not Providers. *Am J Med*. 2021;134(12):1444-1446. doi: 10.1016/j.amjmed.2021.06.031. Epub 2021 Jul 21. PMID: 34297975.
- Petty R, *Plastic Surgery: its origins. The Life and Works of Sir Harold Gillies (1882-1960)*. London: privately published; 2013.
- Saka N, Yamamoto N, Watanabe J, Wallis C, Jerath A, Someko H, Hayashi M, Kamijo K, Ariie T, Kuno T, Kato H, Mohamud H, Chang A, Satkunasivam R, Tsugawa Y, Comparison of Post-operative outcomes Among Patients Treated by Male Versus Female Surgeons: A Systematic Review and Meta-analysis. *Ann Surg*. 2024;10. doi: 10.1097/SLA.0000000000006339. Epub ahead of print. PMID: 38726676.
- Saunders C, *Hospice: a global network*. *J R Soc Med* 2002;95(9):468.
- Saunders C, *Selected writings 1958-2004*. New York: Oxford University Press; 2006.
- Silverman ME, Murray TJ, Bryan CS (eds), *The Quotable Osler*, Philadelphia: American College of Physicians; 2003.
- Tenon JR, *Mémoires sur les hôpitaux de Paris*. Paris: Pierres; 1788.

1. Tenon JR, *Mémoires sur les hôpitaux de Paris*. Paris: Pierres; 1788.
2. Quoted in Ackernecht EH, *Medicine at the Paris hospital 1794-1848*. Baltimore: The Johns Hopkins Press; 1967. p. 16.
3. Mangione S, Basile M, Post SG. Out of Touch. *JAMA*. 2024;5,331(9):729-730.
4. Personal communication of Sal Mangione (ref. 3) to the author.
5. Quoted in Fülöp-Miller R, *Triumph over Pain*. London: Hamish Hamilton; 1938. p. 91.
6. Ibid.
7. Borghi L, *The Monuments Men: In the History of Anesthesia, Too*. *Anesthesiology* 2015;122:521-523.
8. Borghi L, *Sense of Humors. The Human factor in the History of Medicine*. Wrocław: Amazon KDP; 2022. pp. 167 ff.

9. Saka N, Yamamoto N, Watanabe J, Wallis C, Jerath A, Someko H, Hayashi M, Kamijo K, Ariie T, Kuno T, Kato H, Mohamud H, Chang A, Satkunavivam R, Tsugawa Y, Comparison of Postoperative outcomes Among Patients Treated by Male Versus Female Surgeons: A Systematic Review and Meta-analysis. *Ann Surg.* 2024;10. doi: 10.1097/SLA.0000000000006339. Epub ahead of print. PMID: 38726676.
10. The second reason was her repugnance in discovering that in the US the term ‘female physician’ was exclusively applied to women who clandestinely practised abortions, a “gross perversion and destruction of motherhood” in Blackwell’s words (Blackwell E, Pioneer work in opening the medical profession to women. London-New York: Dent and Dutton; 1914. p. 24).
11. Blackwell E, Ref. 10. p. 21.
12. Borghi L, Ref. 8. pp. 202-203.
13. Blackwell E, Ref. 10. p. 33.
14. Blackwell E, *The Influence of Women in the Profession of Medicine.* London: George Bell and Sons; 1889. pp. 10-11.
15. Fitzharris L, *The Facemaker. One Surgeon’s Battle to Mend the Disfigured Soldiers of World War I.* Dublin: Allen Lane; 2022.
16. Fitzharris L, Ref. 15. p. 7.
17. Petty R, *Plastic Surgery: its origins. The Life and Works of Sir Harold Gillies (1882-1960).* London: privately published; 2013. pp. 14-15.
18. Petty R, Ref. 17. p. 16.
19. Fitzharris L, Ref. 15. pp. 52-53.
20. Petty R, Ref. 17. p. 17.
21. Quoted in Fitzharris L, Ref. 15. p. 76.
22. Fitzharris L, Ref. 15. pp. 78-79.
23. Fitzharris L, Ref. 15. p. 78.
24. Quoted in Fitzharris L, Ref. 15. p. 234.
25. Borghi L, Ref. 8. p. 317.
26. Goor DA, *The genius of C. Walton Lillehei and the true history of open heart surgery.* New York: Vantage Press; 2007. p. 43, note.
27. Goor DA, Ref. 26. pp. 42-3.
28. A 10-volt direct-current pulse was enough to stimulate the heart. Bakken EE, *One man’s full life.* Minneapolis: Medtronic Inc.; 1999. p. 50.
29. Ibid.
30. Borghi L, Ref. 8. pp. 318-319.
31. Cooper DKC, *Open heart. The radical surgeons who revolutionized medicine.* New York: Kaplan; 2010. p. 198.
32. du Boulay S, Cicely Saunders. *Founder of the Modern Hospice Movement.* London: Hodder and Stoughton; 1984.
33. du Boulay S, Ref. 32. p. 57.
34. Ibid.
35. Clark D, Cicely Saunders. *A Life and Legacy.* New York: Oxford University Press; 2018. pp. 63-64.
36. du Boulay S, Ref. 32. p. 61.
37. Saunders C, “The Management of Patients in the Terminal Stage” (*Cancer*, vol. 6, 1960, pp. 403-417). In: *Selected writings 1958-2004*, New York: Oxford University Press; 2006. p. 24.

38. Clark D, Ref. 3. p. 228.
39. Saunders C, Hospice: a global network. *J R Soc Med* 2002;95(9):468.
40. Carbonara L, Casale G, Bosetti C, Uggeri S, Armento G, Blasi M, De Marinis MG, Corli O, Pain, symptoms and therapy satisfaction in adult oncologic patients at admission to palliative care: An Italian prospective, multicenter, observational study. *Pain Pract.* 2024;10. doi: 10.1111/papr.13395. Epub ahead of print. PMID: 38855952.
41. Saunders C, "Dying of Cancer" (St Thomas's Hospital Gazette, vol. 56, n. 2, 1958, pp. 37-47). In: *Selected writings 1958-2004*, New York: Oxford University Press; 2006. p. 11.
42. Benedetti C, Chapman CR, John J, Bonica. A biography. *Minerva Anestesiol* 2005;71:391-2.
43. Benedetti C, Chapman CR, Ref. 42. p. 392.
44. Ibid.
45. Bonica J, *The Management of Pain*. 2nd edition. Philadelphia-London: Lea & Febiger; 1990. vol. 1, p. vii.
46. Bonica J, Ref. 45. p. 15.
47. Benedetti C, Chapman CR, Ref. 42. p. 393.
48. See also Mangione S, Basile M, Post SG, Ref. 3.
49. Liebeskind JC, Oral History Interview with John J. Bonica, 9-12 March 1993 (Ms. Coll. no. 127.7); John C. Liebeskind History of Pain Collection, History & Special Collections Division, Louise M. Darling Biomedical Library. Los Angeles: University of California; p. 153.
50. Silverman ME, Murray TJ, Bryan CS (eds), *The Quotable Osler*. Philadelphia: American College of Physicians; 2003. pp. xxxi-xxxii.
51. Mangione S, Mandell BF, Post SG, *The Language Game: We Are Physicians*. *Not Providers.* *Am J Med* 2021;134(12):1444.

Luca Borghi: ORCID 0000-0002-8196-0382

