

The Masked Marvel – a True Medical Superhero

How John J Bonica Changed the Face of Pain Medicine

“The proper management of pain remains, after all, the most important obligation, the main objective, and the crowning achievement of every physician” John J Bonica, *The Management of Pain* 1954¹

Background and Upbringing

John Joseph Bonica was born on the 16th February 1917 on the island of Filicudi, Sicily. His father, Antonino, was the island’s Mayor and, later, the Director of the Postal Service, but it was his mother, Angela (a nurse and midwife), who introduced him, perhaps unknowingly, to the field of medicine. It was at the age of 8 when witnessing the incision and drainage of a breast abscess under his mother’s care that John vowed to pursue a medical career, despite fainting at the sight!

Antonino decided to move the family to the United States in 1925 both due to political differences and to provide a better education for his children, despite the regulatory inability to transfer their funds between the countries. Angela, John and his two sisters followed some 2 years later after successful emigration applications and arrived in Brooklyn, New York with little grasp of the language. This made for a difficult introduction to John’s new home. Worse was to come, however, when his father tragically died age 55, only 4 years after the family’s arrival in America. What little money was left from Antonino’s work as a labourer had to be supplemented by Angela’s factory work. John, age 15, helped out by selling newspapers and groceries and shining shoes. This income was just enough to provide the children with a continued education^{2,3}.

Academic and Sporting Prowess

It was at high school that Bonica discovered his interest and flair in athletics and amateur wrestling. By 1936 he had won the New York Interscholastic and Regional Intercollegiate Championships, catching the attention of New York's leading promoters and resulting in a professional contract. In the same year, a chance encounter with a spectator at one of his matches led to a long and happy marriage – Emma Baldetti had come to watch John fight and, when they found themselves travelling home on the same bus, John proclaimed that he would marry her! He was to be proved right following his graduation in 1942^{2,3,4,5}.

Medical School and Beyond

“No medical school has a pain curriculum...”⁶

Alongside his athletic achievements, Bonica continued to excel in academia. In 1938, he enrolled at Marquette University School of Medicine, graduating 4 years later and beginning an expedited programme of training in ‘anesthesiology’ at St Vincent’s hospital, New York – a programme produced due to the necessities of war. During these months of specialty training, Emma was to give birth to their first child. This experience was to be another seminal moment in Bonica’s career. During open-drop anaesthesia with ether, Emma suffered near-fatal hypoxia secondary to aspiration of gastric fluid. Though mother and child both escaped this unscathed, John vowed to change the future practice of obstetric anaesthesia and analgesia. Indeed, Emma became one of the first women to benefit from epidural analgesia in labour during the birth of their second child, an idea introduced by her husband^{2,3,4}.

The War Years

Following his residency at St Vincent's, Bonica was enrolled in the US Army and posted to Madigan Army Hospital, Fort Lewis. Here he became Chief of Anesthesiology and was put in charge of transfusion, respiratory therapies and, of particular note, pain management. Madigan received thousands of wounded military recruits from the war in the Pacific. Hundreds each week would arrive requiring trauma surgery. Bonica and his 2 nurse anaesthetist associates would induce anaesthesia (thiopentone, ether, tracheal intubation) before members of the Army Medical Corps took over their intraoperative monitoring. It soon became clear that training of staff to meet such a demand was imperative; John Bonica's programme saw over 150 staff trained in under 3 years (a mix of physicians and nurses). Many were then re-posted to field hospitals close to the theatre of war.

"I have declared war on pain"¹

The well documented consequences of general anaesthesia with thiopentone and ether in the extensively wounded at this time, alongside a will to improve the pain management of these patients led to Bonica's move towards regional anaesthetic techniques – skills he taught himself. During his time at Madigan, the percentage of cases undertaken with regional anaesthesia rose to over 50% and he was keen to employ his training techniques in this field too. The pain and suffering he witnessed in these years was to shape the rest of an illustrious medical career.

Meanwhile, his wrestling career continued unabated, despite the disapproval of the Army. Between 1938 and 1941 Bonica had won the National USA title, the Canadian title and had held the Light Heavyweight Championship of the World. In his Army years, the need for discretion led to his fighting under an alter ego: "The Masked Marvel". The intensity of his training and frequency of hard

fought bouts were to take their toll, however, and shaped John's own experience of chronic pain in the years to come^{2,3,4}.

Post-War Career

Leaving the army in 1947, Bonica took up a post at Tacoma General Hospital, Washington. There he built on the ideals forged by the war years. His dissatisfaction with the state of research and training in anaesthesia and pain medicine led to his introduction, as Chief of Anesthesia, of top class services in surgical and obstetric anaesthesia, acute and chronic pain management and the continuation of his own clinical research in pain started in Madigan. Interest in Bonica's approach grew and by 1949 he had begun lecturing on the subjects of his passion across the USA. In 1950 he began work on his first major publication – The Management of Pain was first published in 1953 and continues to be updated to this day. This was to be the first textbook dedicated to pain management and a far cry from the state of medical training of the past. The need for such a text was illustrated best by the man himself. Referring to the paucity of information on pain management in the medical textbooks of his training and early career, he said:

“What the hell kind of conclusion can you come to there? The most important thing, from the patient's perspective, they don't talk about.”⁷

His work at Tacoma continued apace. The round-the-clock obstetric anaesthesia service was a world first, the Pain Clinic received patients from around the globe and his multidisciplinary approach to pain management was way ahead of its time. His realisation of the significance of non-organic factors in pain was instrumental in the development of the modern biopsychosocial model^{2,3,4,5}:

“The crucial role of psychological and environmental factors in causing pain...only recently received attention. As a consequence, there has emerged a sketch of pain apparatus...which is to be applicable to all circumstances. But medicine has overlooked the fact that the activity of this apparatus is subject to the constantly changing influence of the mind.”¹

Washington, the US, the World!

Bonica's status clinically began to be mirrored by an increasing presence in the scientific community. Through his influence, and aided by his instalment as Chairman of the Department of Anesthesiology at the University of Washington, Seattle in 1960, he was instrumental in the founding of the Washington State and Northwest Societies of Anesthesiologists and in the joining of the World Federation of Societies of Anaesthesiologists (WFSA) and the American Society of Anesthesiologists (ASA). In fact, over the next decades he was to be elected to increasingly influential positions on these boards, including to President of the ASA in 1965 and of the WFSA in 1980.

His role at the University of Washington allowed his background in the training of medical recruits to once again come to the fore as he helped to develop the School of Medicine in Seattle. As this department developed, Bonica was able to advance the field of academic research in anaesthesia and pain medicine. By 1967, the department was influential enough to be awarded a grant to be a regional and national resource for anaesthesia research. This resulted in publications across the fields of anaesthesia, critical care and acute and chronic pain management. However, pain medicine remained his true passion. Somehow, he wanted to expand his work on the advancement of pain medicine internationally.

In 1973, Bonica organised an international symposium on pain medicine in Seattle. Leading lights from the field travelled from 13 countries to attend the meeting. It was at this meeting that the International Association for the Study of Pain (IASP) was founded. John's wish was for the Association to be truly multidisciplinary, with the inclusion not only of physicians and nurses, but of dentists, physiotherapists, psychologists, pharmacists, social workers and many more^{2,3,4}.

Closer to Home

Meanwhile in Washington, John had been hard at work developing his Multidisciplinary Pain Centre and establishing the first formal training programme for anaesthetists in Pain Medicine. They came from far and wide to work in this state of the art facility and left it to open their own clinics across the world. Moreover, his influence had reached new levels as he was able to inspire change at both government and industry levels in order to increase the work on pain research.

Through all of this hard work, Bonica was enduring his own struggles against chronic pain. The old wrestling injuries resulted in the need for a typically holistic approach to his own management. Medicines, nerve blocks and trigger point injections, several spinal, hip and shoulder operations, and physiotherapy (swimming in the ocean in Hawaii and Filicudi) were coupled with an unwavering focus and devotion to his work^{2,3,4}:

*"If I wasn't as busy as I am I would be a completely disabled guy."*⁷

In Memoriam

John J Bonica died on 15th August 1994 of a cerebral haemorrhage at the age of 77, just a month after the death of his beloved wife, Emma. He left behind an incredible legacy across the clinical, research and training communities of anaesthesia and pain medicine. With hundreds of papers to his name and several texts still in publication, this legacy lives on. In IASP, he leaves an association with thousands of international members, still producing work at the forefront of pain medicine^{2,3,4}.

So here's to John J Bonica: the Masked Marvel, the Founding Father of Modern Pain Management.

References & Further Reading

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