

Hand surgery in Italy

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The Origin

Over centuries, many Italian surgeons have contributed to the developing of the interest in hand anatomy and surgery of hand and forearm. These include Giulio Casseri (1552–1616), Giovanni Battista Monteggia (1762–1815), Riccardo Galeazzi (1866–1952), Silvio Rolando (1873–1949), to name a few. *Giants of Hand Surgery* nominated by the International Federation of Societies for Surgery of the Hand (IFSSH) are Giulio Casseri, Filippo Pacini (1812–1883), Francesco Parona (1842–1907), and Augusto Bonola (1906–1996). *Pioneers of Hand Surgeons* named by IFSSH are Ezio Morelli (1923–2010), Renzo Mantero (1930–2012), Giorgio Brunelli, Paolo Bedeschi, Alessandro Caroli, and Pierluigi Raimondi.

The first Italian department for the care of the lesions of the hand was opened at the Centro Traumatologico Ortopedico (CTO), Istituto nazionale Assicurazione Infortuni sul Lavoro (INAIL) in Milan in 1955, which was directed by Aldo de Negri (1910–1996). In 1959, during the Annual Meeting of the Italian Orthopaedic Society in Rome, Augusto Bonola and Oscar Scaglietti proposed dedicating a branch of the Orthopaedic Society to hand surgery.

Augusto Bonola (1906–1976) at the Rizzoli Institute in Bologna was one of the Italian pioneers in hand surgery. His teachers were two great Italian and European masters of orthopaedic surgery of the time, Vittorio Putti (1880–1940) and Francesco Delitalia (1883–1983). During the Second World War, Bonola established a pivotal principle in hand surgery, the importance of skin coverage in difficult, open wounds to avoid limb amputations. In 1946, prior to his 40th birthday, he became the Professor of Orthopaedic Surgery at the University of Modena.

The first national meeting of hand surgery was organized in 1962 in Florence by a small group of surgeons under the guide of Augusto Bonola. In this meeting, *Società Italiana di Chirurgia della Mano* (SICM) (Italian Society for the Surgery of the Hand) (Figure 1) was established. The founding members were Augusto Bonola, Giorgio Brunelli, Aldo de Negri, Leonardo Gui, Germano Mancini, Umberto Mangini, Ezio Morelli, and Filippo Perricone.

SCIM was one of the first national hand societies established. The Americans and Scandinavians founded theirs 15 and 11 years earlier, respectively. In January 1964, the first edition of the *Rivista di Chirurgia della Mano*, was published. It was the first hand surgery journal in Europe (Figure 2).

The IFSSH was founded in Chicago in 1966, and the Italian society was one of eight founding member societies. The representatives were A Bonola (Italy), T Morotomi (Japan), A Barsky (USA), G Stack (UK), N Carstam (Scandinavia-Sweden), D Buck-Gramcko (Germany), A Pernet (Brazil), and R Tubiana (France). Augusto Bonola was a coordinator of 'The research group for work related injuries' at that time. Bonola created a centre for hand surgery in Modena along with the first hand surgery training programme (Figure 3). Giorgio Brunelli was president of the IFSSH from 1995 to 1998.

In 1975 the first schools of specialization in hand surgery were activated, first at Modena University, then at Florence, Pavia, Naples, and Brescia University. The school of specialization in hand surgery does not exist anymore. At present, a 1-year Masters in Hand Surgery programme is still offered in Modena University.

Current status of the society

Hand surgery in Italy is strongly linked to its society (<http://www.sicm.it>). The society is composed by 700 fully registered members, 45 young members, and 12 honorary members; the current president of the society is Bruno Battiston from Torino. The majority of Italian hand surgeons are orthopaedic surgeons, while plastic surgeons are a substantial minority. The society journal website is <http://www.cgems>. A hand surgery textbook '*Trattato di chirurgia della mano*' was edited in 2007 by Antonio Landi, Francesco Catalano, and Riccardo Luchetti, with contributions from the majority of nationally prominent surgeons.

There are hand trauma centres in Ancona, Bari, Brescia, Catania, Cagliari, Florence, Genova, Messina, Milan, Modena, Naples, Padova, Pordenone, Rome, Savona, Terni, Torino, and Verona, with dedicated emergency care of hand trauma 24 hours a day. All these centres are accredited by SCIM with the

criteria similar to the criteria for European Hand Trauma Centre by the Federation of European Societies for Surgery of the Hand (FESSH). There are many other smaller hand units in rural area and in big cities, where cases of non-emergent acute hand trauma and elective cases are treated.

Training and formation of hand surgeons

In Italy, surgeons aspiring to become hand surgeons first join a full training programme in orthopaedic surgery or plastic surgery for 5 years. After registration in the Specialist Register as an orthopaedic or plastic surgeon, he or she receives future training through fellowship, master degree course, or training courses for young surgeons as detailed below.

For young surgeons in their 5-year residency programme, SICM organizes three main courses: (1) anatomy and surgery with cadaver dissection organized into three modules (1 week each for anatomy, orthopaedic-hand surgery, and plastic-hand surgery); (2) advanced course in microsurgery: organized in collaboration with the Societies for Microsurgery and Plastic & Reconstructive Surgery, with 120 hours of practice, again in 3 weeks during the year; and (3) some recognized hand surgery centres offer 1-year hand and microsurgery fellowships.

SICM has a particular interest in training programmes, not only for young surgeons, but also for more senior surgeons. SICM organizes two dissection courses each year in English with domestic and international faculties. Each course is 3 days long. The society's annual meeting normally includes or is in conjunction with the Italian hand therapists' society.



Figure 1. This is the symbol for the Italian Society for Surgery of the Hand. Bonola chose a quote written from Julius Casserius [the famous anatomist graduated at Padua University around 1580]. *Rimatur Manus Apta Manum, Mens Erue in Mentem*. In English, it means 'The skillful hand of the surgeon dissects the hand. The mind supports its comprehension'.

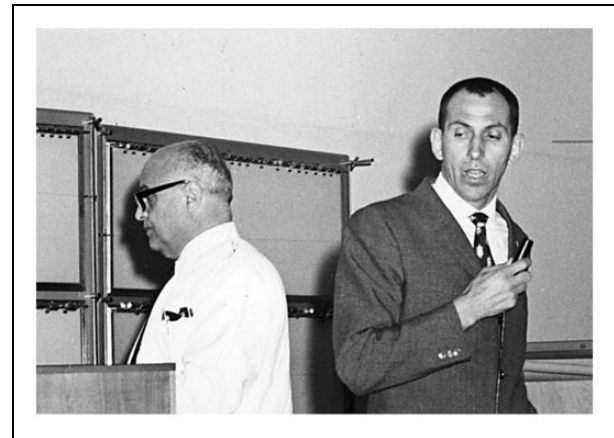


Figure 3. The young Giorgio Brunelli and Professor Augusto Bonola during a meeting.



Figure 2. Changes in the cover layout of the *Italian Journal of Hand Surgery* from its first appearance in 1964 until today.

SICM and Italian surgeons are involved in FESSH organizations and council activities for many years. Massimo Ceruso was General Secretary from 2008 to 2011. The FESSH Congress was held in Bologna organized by Antonio Landi in 1997 and in Milan organized by Giorgio Pajardi in 2015. There is not a national certification in hand surgery presently, and it is not necessary to be board certified to be a hand surgeon in Italy. Many young surgeons have the FESSH diploma in hand surgery.

Major practices

Hand surgery in Italy covers the hand, wrist, forearm, and in many cases the elbow. There are few centres that include the entire upper limb. All anatomical structures and tissue are treated for trauma or elective surgery with all surgical techniques including microsurgery and plastic surgery, arthroscopy, and osteosynthesis. Microsurgery dedicated to emergency and replantation is a very important field of interest due to many work-related and street accidents that luckily are decreasing in frequency over time.

Nerve entrapment syndromes, stenosing tenosynovitis, wrist ganglions, degenerative joint deformities related to arthritis (primary or posttraumatic), and Dupuytren's contracture are the most common hand-related diseases encountered in Italy. Rheumatoid arthritis is still a problem, but with biological and immunological treatment it is less frequent now. We have an excellent school

of nerve repair and palliative surgery for neurologic problems, hand prostheses for patients with degenerative and rheumatic conditions, plastic surgery and microsurgery for emergency and tumour reconstruction, arthroscopy, and all orthopaedic trauma care, both acute and delayed. Few centres specialize in treatment of congenital hand differences.

Research activities

Italian hand surgeons have a strong tradition of related research. Giorgio Brunelli has made important contributions to the research on peripheral nerve repair and regeneration. Development of external fixation, not only for finger but also for the elbow, is another topic that has interested Italian hand surgeons in conjunction with internal osteosynthesis and traction tower suspension for arthroscopy and treatment of fractures. Research interest has also been directed to the anatomical and biomechanical features of wrist ligaments. The SCIM has created a guideline committee to improve and define recommendations in the field of hand surgery.

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