

# THE SHIFT FROM CONSERVATIVE MANAGEMENT TO OPERATIVE MANAGEMENT IN ORTHOPEDIC SURGERY - A LITERATURE REVIEW OF THE ASSOCIATION OF THE STUDY OF INTERNAL FIXATION

Matt Gatewood, Daud Lodin, Luc Lanteigne, Samantha Caballero, Jessica Buicko  
 Florida Atlantic University, Schmidt College of Medicine, Department of Surgery, Boca Raton, FL

**Introduction:** The most common treatment of fractures before the 1950's was conservative management using splints, plaster, or constant traction depending on the affected bone and location. During this time period some surgeons around the world were using early designs of plates and screws, but a consensus was lacking regarding surgical principles and standardization of equipment. The shift from conservative to operative management took place largely due to the *Arbeitsgemeinschaft für Osteosynthesefragen* (AO) or Association of the Study of internal Fixation and their goal of providing an improvement on previously accepted fracture treatment.

**Methods:** This presentation describes a literature review of the history of the AO and Maurice Müller's contributions.

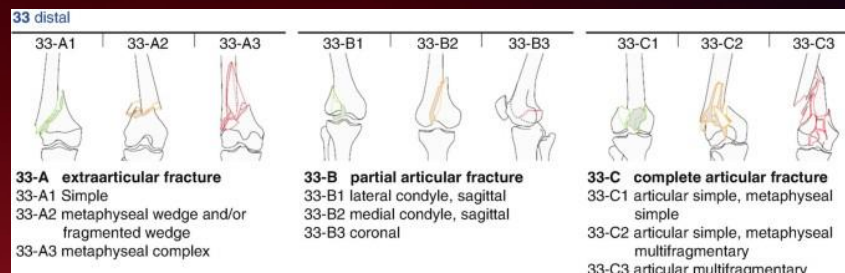


Figure 2 - AO Classification of distal femur fractures

**Results:** Plating of fractures began as early as 1895 by Dr. Lane with initial complications being due to insufficient strength and high risk of plate corrosion. It wasn't until the 1950's that adequate plate designs began to surface, but a consensus was lacking regarding adequate technique. This led to likeminded orthopedic surgeons to form the AO in 1958 in Switzerland led by Dr. Maurice Müller. Their first goal was to manufacture a standardized toolset of equipment that would be required for performing their proposed operations. Initially met with criticism by the conservative majority their ideas slowly gained traction with young orthopedic surgeons who lead the way to further spread their newly developed principles. One of their early accomplishments was Dr. Müller performing the first hip arthroplasty in Europe in 1961. Today, the AO is credited with making a significant contribution to the field of orthopedic surgery regarding internal fixation, fracture classifications, and training of orthopedic surgeons.

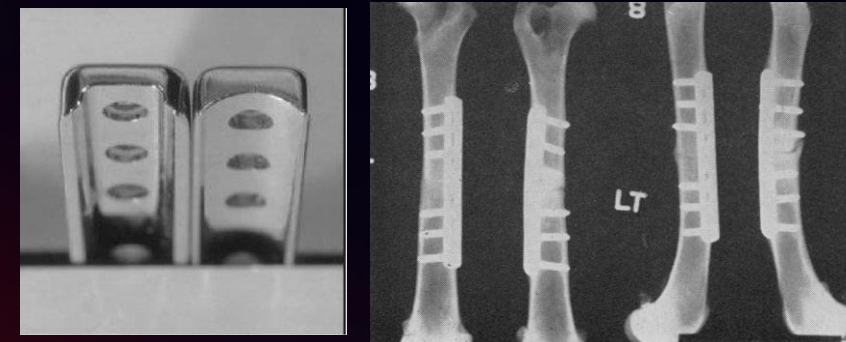


Figure 3,4 – Standard & Contact plates with x-rays of Egger's contact plates, 1953

**Conclusion:** Orthopedic Surgery is a field that began to change drastically in the late 1950s due to the founding of the AO society. Although orthopedics once focused heavily on conservative management, it now consistently involves surgical interventions, helping fix millions of broken bones worldwide. Their ideas on osteosynthesis have stood the test of time and are considered the goal standard in orthopedic practice today.



Figure 1 - Dr. Lane's original plate design showing signs of corrosion, 1959

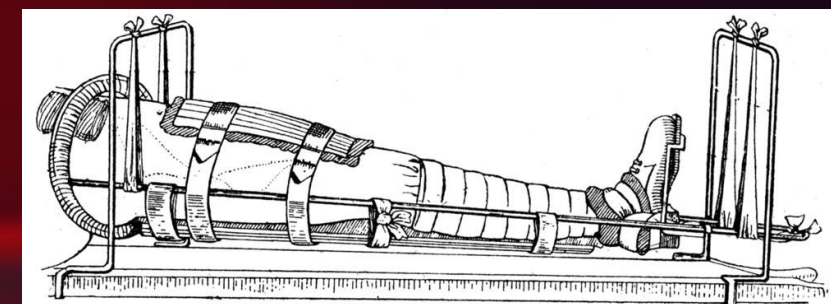


Figure 5 - A Thomas Splint: treatment of femoral fractures during WW1.

