Ilizarov Comes to the USA

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Progress of Science is created by two types of geniuses

- Genius Discoverer brings about a conception of a new idea, new possibilities.

- Genius Developer-Creator gives this possibilities a creative expression, develops and accomplishes existing idea
Revolution in Science

Only in a very rare occasion the same scientist becomes both originator and developer of the idea. This rare type of genius created revolution in science.

- Professor Gavriil Abramovich Ilizarov brought about a concept of new idea, discovered unknown possibilities and on the basis of his discovery created a new chapter in orthopedic science.
1939 - Medical School in Crimea
Young Ilizarov started to look for possibilities to improve the results of fracture treatment.

This idea came to him after a long and intensive consideration and appeared in his dream.
Ilizarov managed to construct an elegant compression-distraction frame.
Moscow, 1958
"locksmith's approach to surgery"
Ilizarov continued perfecting his fixator and exploiting the techniques of different methods of treatment
Ilizarov fixator became so versatile that it’s assembly was adaptable to any skeletal pathology.
Most of his brilliant ideas came to Ilizarov empirically.
Distraction Osteogenesis

- In 1960’s Ilizarov discovered natural ability of bone tissue to regenerate with gradual distraction
- Based on principles of that are at the basis of the normal growth of limbs: the inherent biological distractor, the growth cartilage or physis which stimulates all tissues in the limb to grow by tension force
- New medical paradigm of exploitation of bone’s natural plasticity, concept of Tension-Stress Effect
Ilizarov reported in several presentations and papers 170 cases of successful bone lengthening up to 10 inches (26 cm).

For 20 years he continued to work without support and understanding from the bureaucrats of science.
1968 – Perm, Ural
Dissertation “Transosseous Compression Osteosynthesis by the Author’s Apparatus” for the title of Candidate of Medical Science (Ph.D.)

- Experimental data
- Clinical results of 444 patients
  - Arthrodesis of major joints
  - Nonunions
  - Fractures
- Awarded the title of Doctor of Medical Science
Kurgan, 1965 – special assignment
Valery Brumel – a high jumper, gold Olympic Champion (1964)

- Compound tibial Fx in 1967
- Infected bone defect with shortening
- More than 20 unsuccessful surgeries
- Moscow professors offered amputation
Media: “Miracle recovery!”
Kurgan Orthopaedic Center

- 800 beds
Mstislav Rostropovich – the greatest cellist of the second half of the 20th century
First Ilizarov Surgery in Moscow
In New York
In 1970’s Ilizarov was allowed to demonstrate his method in Cuba
The Ra I and Ra II Expeditions (from Egypt to Barbados 2,800 mi.)

International fame

Carlo Mauri – Italian explorer and journalist
“Michelangelo of Orthopaedics”

- Compound tibial Fx
- Infected bone defect
- Leg shortening
- 7 unsuccessful surgeries
“Some of the cases which he presented were so dramatic that more than one surgeon at the Congress became suspicious and insinuated that he was displaying elegant photomontages for promotional purposes” Prof. Roberto Cattaneo recalled
June 1981

First Ilizarov surgery
Italians in Kurgan, 1982
Do you see the change?
Ilizarov was invited to Spain in 1983
Barcelona 1984

- Dr. Victor Frankel President of the Hospital for Joint Diseases in New York saw Ilizarov external fixator on display
- Later he visited Lecco, Italy and brought several sets of apparatus to New York
1985

G. A. ILIZAROV

OSTEOSINTESIS

Técnica de Ilizarov

A. Bianchi Maiocchi
J. C. Martí González
1984

- Dr. James Aronson from Little Rock, Arkansas after visiting Lecco initiated series of animal experiments reproducing Ilizarov work.
- In 1985, Dr. Aronson performed the first leg-lengthening procedure in North America using the Ilizarov method.


• The first Ilizarov Surgery in the US by Dr. Frankel
1985

- Dr. Dror Paley visited Lecco and the following year came to Kurgan to study the method.
- He was the first American to get training in Kurgan.
Toronto, Canada - 1987

- Dr. Paley and Dr. Bell performed Ilizarov surgery.
Newly converted “Ilizarovians”

Victor H. Frankel

Stuart Green
In 1987 Dr. Frankel invited Ilizarov to give Sir Robert Jones lecture in 1987 in HJD
After 10 years
Dr. Alfred Grant became a very enthusiastic “Ilizarovian” and went to Kurgan three times
1988 “Taylor versus Ilizarov” symposium (nail versus frame)
December 1991, HJD
1992- the most comprehensive book of 800 pages based on 40 years of Ilizarov clinical work and research with editorial assistance by Dr. Stuart Green was published.
Worldwide honors of Dr. Ilizarov
Dr. Ilizarov was a truly remarkable man whose theories and surgical method enlightened physicians around the world and saved limbs of countless people with crippling musculoskeletal problems.

He is an example of a unique ability to overcome thousands of obstacles. He started his career in a remote part of Russia and became known as a leading scientist.

The World lost one of the greatest orthopedists of XX century.
Thank You