



E. M. R. S. S.

Euro Mediterranean

Rehabilitation Summer School

Siracusa, Italy



## *History of Physical & Rehabilitation Medicine Worldwide*

**Jorge Laíns**





# *Rehabilitation Medicine* *the **past***



Dazaifu Tenmangu: bridge-**Present**







# ancient roots & early concepts





# a timeless discipline

## maximizing function from 400 B.C. to today





a timeless discipline



maximizing function from 400 B.C. to today





# the foundations of physical modalities



## ancient wisdom: therapy via nature

- **400 B.C.**
  - physical healing using water, heat, massage, and cold
- **Hippocrates & Galen**
  - documented the systematic use of massage and manual therapy
- **hydrotherapy**
  - a primary form of treatment in ancient Greek and Roman baths







# the foundations of physical modalities



ancient wisdom: therapy via nature







# the foundations of physical modalities



ancient wisdom: therapy via nature





# renaissance and mechanical movement



## systematic exercise and restoration

- from physical healing being mystical → a **structured, mechanical intervention**
- **Roman *Valetudinarium***
  - Early military hospitals were one of the first organized "rehabilitation centers" for soldiers
- **16th Century: Hieronymus Mercurialis**
  - *De Arte Gymnastica*: defining systematic **medical gymnastics**





# renaissance and mechanical movement



systematic exercise and restoration

- Roman *Valetudinarium*





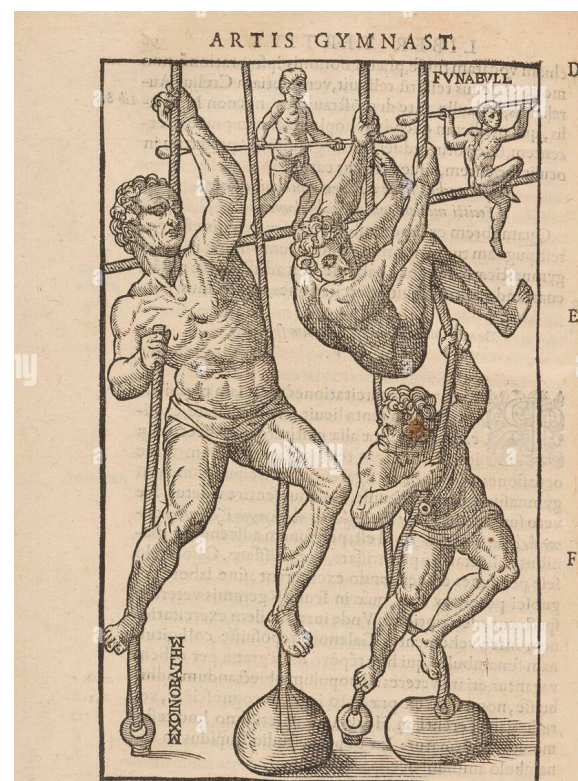
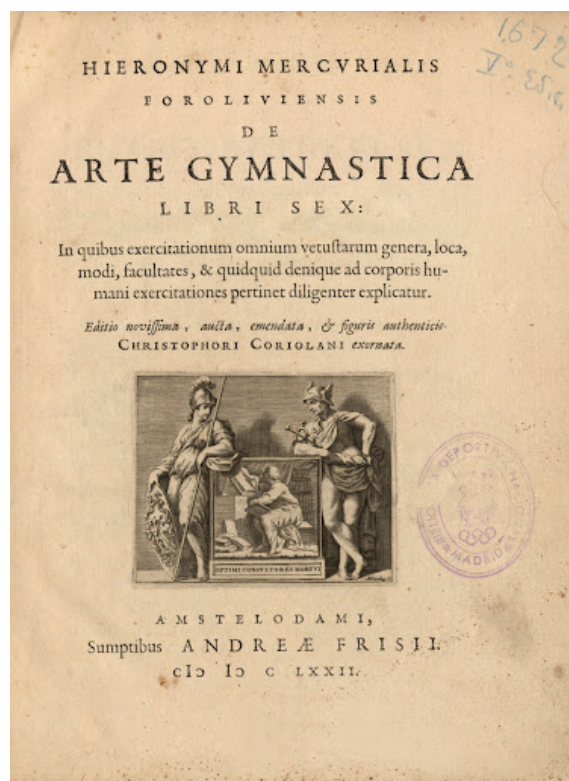


# renaissance and mechanical movement



## systematic exercise and restoration

- *De Arte Gymnastica*





# 19th Century and pre-WW I mobilization





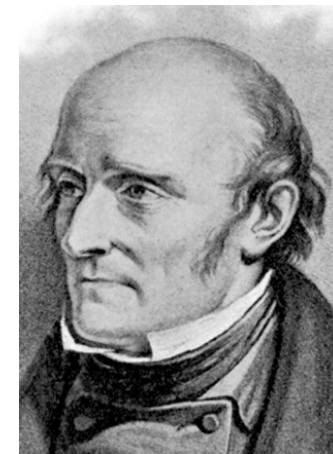
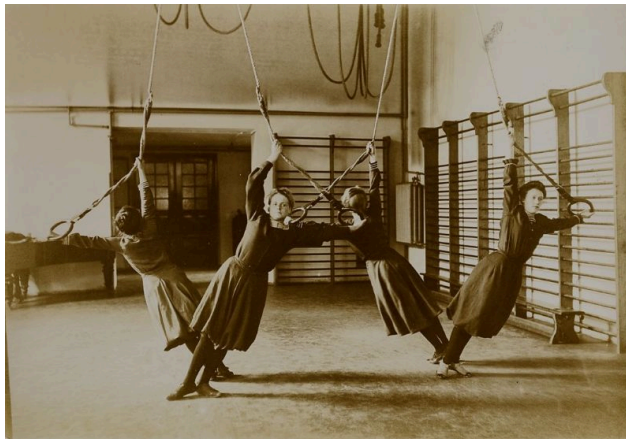


# the dawn of therapeutic exercise



## the Swedish system: *exercise as science*

- **Per Henrik Ling** (Sweden, early 1800s)
  - established the Royal Central Institute of Gymnastics
  - provided a scientific and educational foundation for therapeutic movement
  - precursor to *modern physical therapy* principles





# the rise of electrotherapy and heat



## *technology* enters physical medicine

- late **19th century**
  - new modalities
- physicians
  - exploring electrotherapeutics and forms of light and radiant heat
- specialized use of ***physical agents***
  - begins the separation of the discipline from general medicine

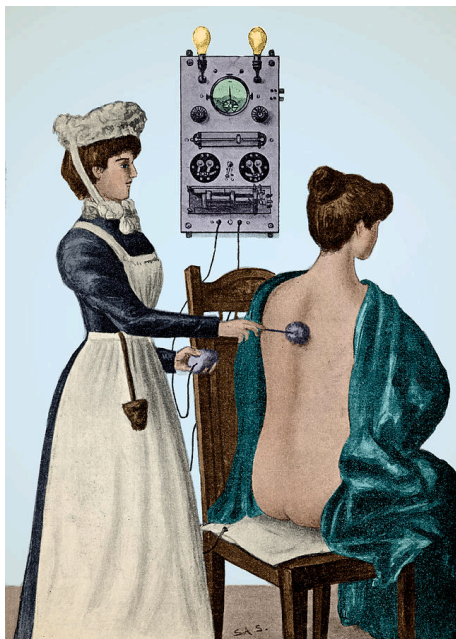




# the rise of electrotherapy and heat

## *technology* enters physical medicine

- electrotherapeutics and forms of light and radiant heat



Alpine Light treatment, Physio-therapy Department, Fitzsimmons General Hospital



130

K. SCHALL,

### DR. SCHNEE'S FOUR-CELL BATH.

In this bath only the arms and feet of the patient are immersed in water. This system offers considerable advantages over a whole bath in many cases.

It is more convenient because the patients need not undress altogether. The strength of current passing through the patient can be measured accurately, whereas in the full bath we do not know how much current reaches the patient, and how much passes directly through

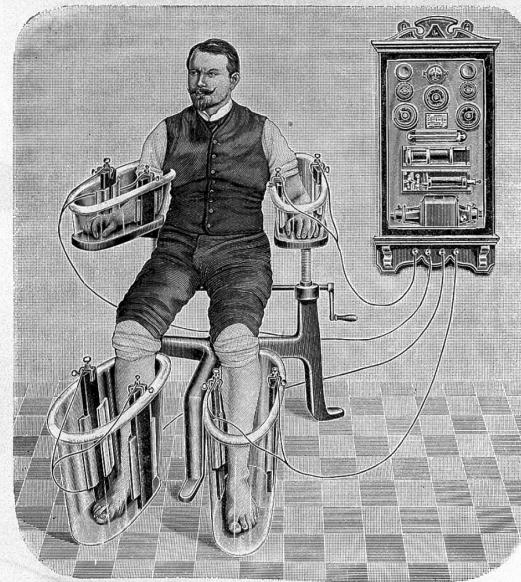


Fig. 180.

the water. The patients can bear much stronger currents than with local applications, on account of the large surface exposed to the current. The direction of the current can be varied by means of a commutator, a great many different combinations are thus possible; three of them are shown in the diagram.

90





# industrialization - the need for organized care



## shifting demographics and chronic disease

- increase of the disabled population
  - Industrial accidents, infections, and chronic conditions grew,
- standard medical care
  - insufficient for **long-term function** and **return-to-work**
- the movement began
  - a medical field dedicated to restoring capacity rather than just curing disease





# industrialization - the need for organized care



shifting demographics and chronic disease







# World War I & the birth of allied health





# Rehabilitation Medicine



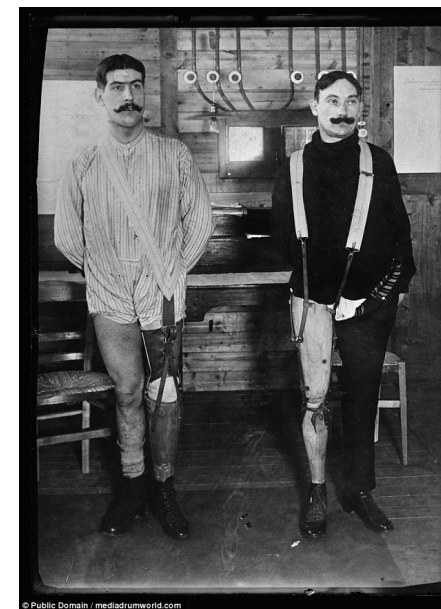
European Academy Rehabilitation Medicine - 50<sup>th</sup> Anniversary





# Rehabilitation Medicine - past

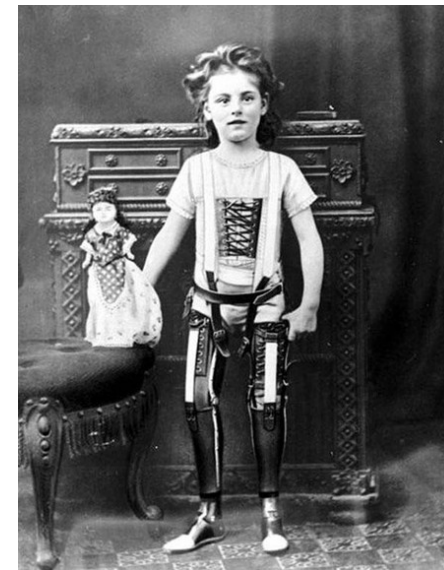
## The wars





# Rehabilitation Medicine - **past**

## The epidemics (poliomyelitis)





# Rehabilitation Medicine

these events create **disability**

- Policy- and decision-makers had to give an answer
- **PMR** - was the *solution*





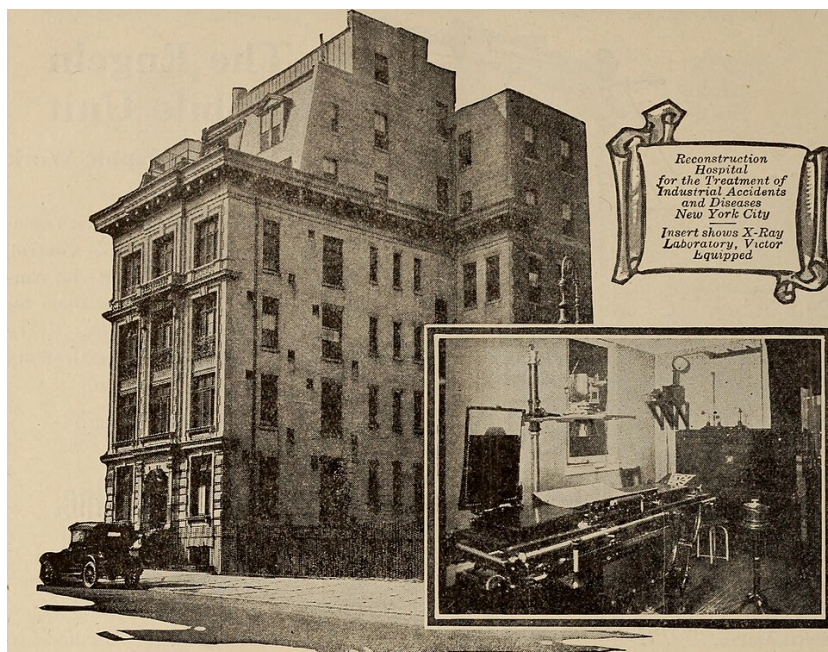


# WW I: great catalyst



trauma and the crisis of function

- military *Reconstruction Hospitals* (Europe and US)





# the reconstruction aides



## formalizing the therapeutic professions

- ***Reconstruction Aides***

- women to carry out prescribed treatment
- provided **Physiotherapy** (exercise and modalities) and **Curative Workshops** (activities, later **Occupational Therapy**)
- organized, non-physician rehabilitation careers





# The American Specialty





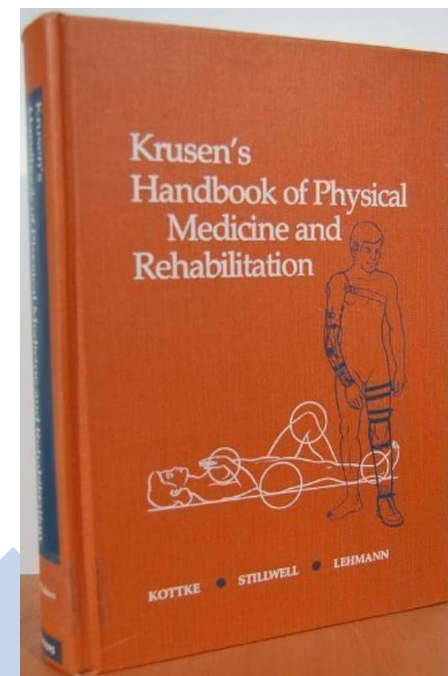
# Krusen vision: scientific medicine



## the architect of Physical Medicine

- **Frank H. Krusen**

- first academic Physical Medicine department (Temple, 1929)
- first 3-year residency program (Mayo Clinic)
- **the term *Physiatrist***
- scientific validity of physical treatments







# The Rusk revolution: total rehabilitation



## the father of Rehabilitation Medicine

- **Howard A. Rusk**

- *survival is not enough*
- the goal: maximum **function** and **independence**
- intensive and early mobilization: **for optimal recovery**
- **holistic approach**
  - physical, vocational, and social restoration





# Recognition: PM&R is born



## the official status of a new specialty - USA

- the Baruch Committee, 1943
  - provided critical funding and political endorsement for the field.
- American Board of Physical Medicine, 1947
  - the specialty board formally recognized
- Physical Medicine and Rehabilitation, 1949
  - official specialty





# Physiatry's first academic steps

## establishing the medical authority

- physicians
  - began to dedicate their careers to the field
- **John Coulter**
  - Northwestern University, 1926
  - the first **full-time academic physician** in physical medicine
- integrating physical arts into the medical curriculum and research





# *Rehabilitation Medicine in Europe the **past** and **present***



Dazaifu Tenmangu Shrine bridge-**Past**







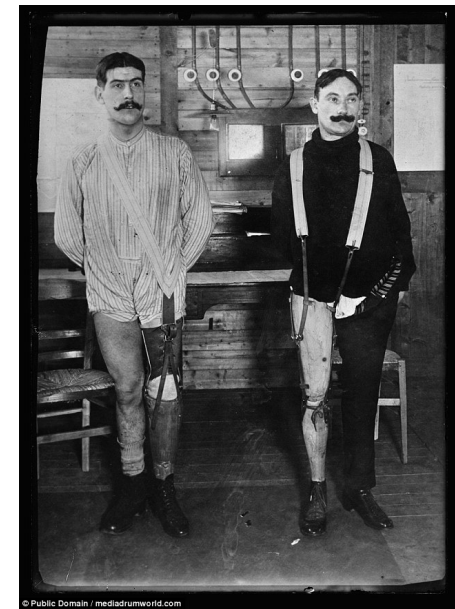
# European Organization & Post-War Development





# Rehabilitation Medicine in Europe

## The wars





# Rehabilitation Medicine in Europe

## The epidemics (poliomyelitis)





# Rehabilitation Medicine in Europe



- these events create **disability**
  - Policy- and decision-makers must give an answer/*solution*
  - **PMR** - plays a role through a **participatory** and **integrative** strategy of the persons with disabilities







# Pioneering European neurorehabilitation



## Sir Ludwig Guttmann and spinal cord injury

- Stoke Mandeville Hospital
- established the world's standard for **Spinal Cord Injury (SCI)**
- the multidisciplinary team approach and the integration of adaptive sport





# Pioneering European neurorehabilitation



## Sir Ludwig Guttman - Paralympic Games

Stoke Mandeville Games, 1948





# Rehabilitation Medicine in Europe



## Physical Medicine and Rehabilitation (PRM)

- evolved in the European countries from different medical areas that finally joined, e.g. *balneology*, *gymnastic*, the use of *physical agents*...
  - before the existence of the PRM Specialty, the “physical agents” or “modalities” were part of the Departments of *Radiology*





# Rehabilitation Medicine in Europe



## Europe - Physical and Rehabilitation Medicine

- organized during the years of birth of the great political European organizations, Council of Europe (1949), and the Treaty of Rome (1957): the treaty establishing the **European Economic Community**
- **PRM** found its strength and spirit in the foundations of the European mind



Treaty of Rome, 1957







# Rehabilitation Medicine in Europe



## Europe - Physical and Rehabilitation Medicine

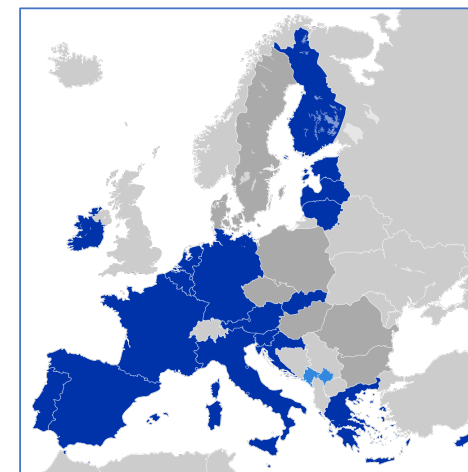
- **PRM** gradually introduced in the different **European countries**
  - no uniformity from country to country
  - different paces



EU flag



EU countries



EU map





# Rehabilitation Medicine in Europe



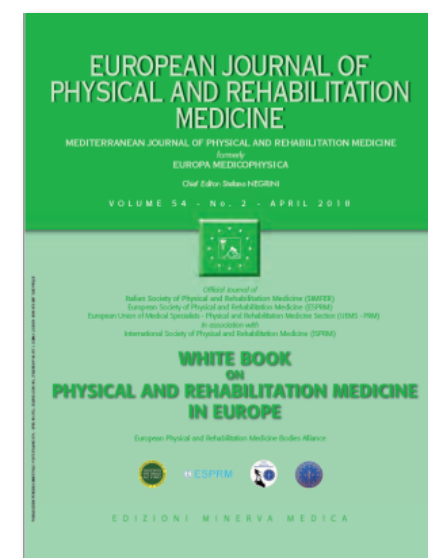
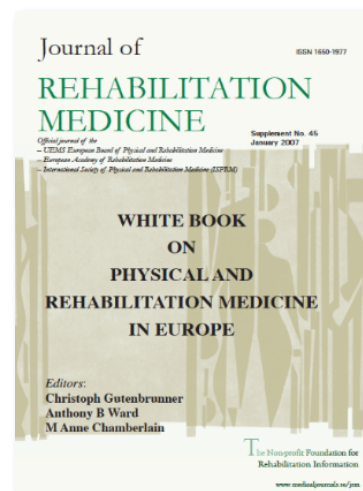
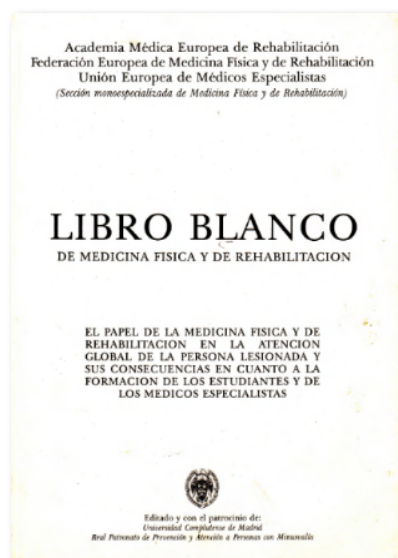
## European PRM Organizations

- European Federation of PRM (1963) → **European Society PRM (2003)**
- **European Academy** of Rehabilitation Medicine (1969)
- **PRM Section** of the European Union of Medical Specialists (1971), with two branches
  - a) Clinical Affairs Committee (2001)
  - b) Professional Practice Committee (2009)
- European College of PRM (1991) - **UEMS-PRM Board**
- **PRM National societies**: 38 members (plus Jordan)





# White Book History



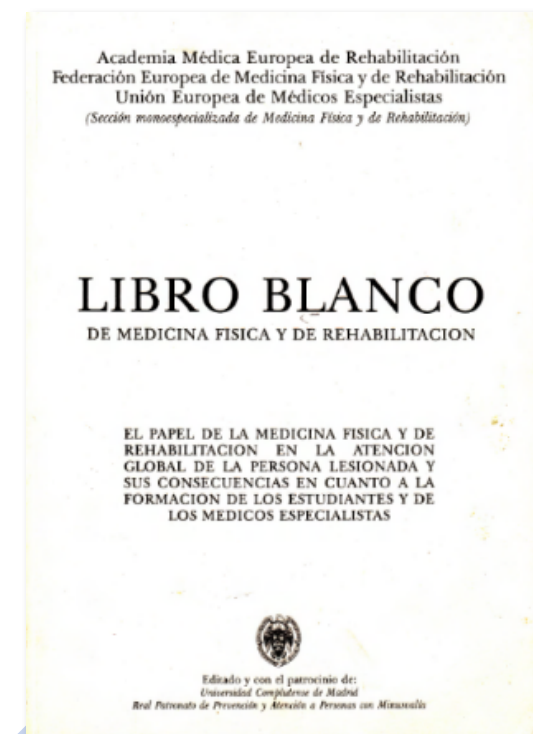


# White Book PRM



## First Edition (1989)

- Published by Universidad Complutense de Madrid
- 4 languages: English, French, Italian, Spanish
- Author: EARM, UEMS-PRM Section







# White Book PRM

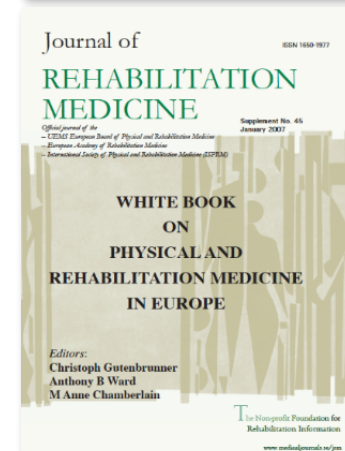
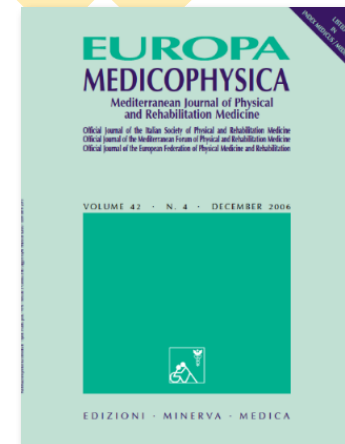


**ESPRM**  
European Society of  
Physical & Rehabilitation Medicine



## Second Edition (2006-7)

- Published in 2 journals
  - Europa Medicophysica (now European Journal of Physical and Rehabilitation Medicine)
  - Journal of Rehabilitation Medicine
- 1 language: English
- Authors: EARM, UEMS PRM Section and Board, ESPRM





# White Book PRM

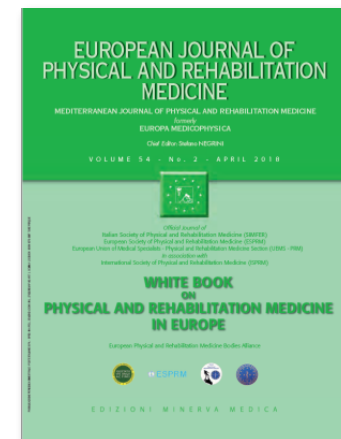


**ESPRM**  
European Society of  
Physical & Rehabilitation Medicine



## Third Edition (2018)

- Published in a special issue of the European Journal of Physical and Rehabilitation Medicine
- Languages: English
- Authors: *European PRM Bodies Alliance*
  - EARM
  - UEMS-PRM Section
  - UEMS-PRM Board
  - ESPRM



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UNIVERSIDADE D  
COIMBRA



# White Book PRM



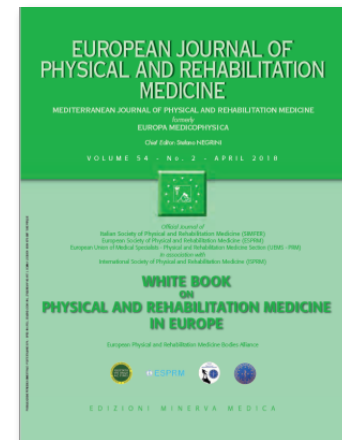
**ESPRM**  
European Society of  
Physical & Rehabilitation Medicine



## Third Edition (2018)

### Purposes

- to provide a unifying framework for European countries
- to inform decision-makers on European and national level
- to offer educational material for PRM trainees and physicians
- to offer information about PRM to the medical community, other rehabilitation professionals and the public



1 2 9 0



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# *Rehabilitation Medicine in Europe the **present***



Dazaifu Tenmangu: bridge-**Present**



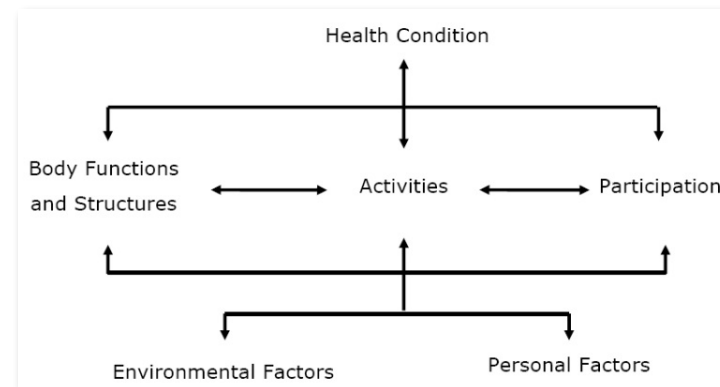




# Physical and Rehabilitation Medicine



- PRM European definition
- *the **primary medical specialty** responsible for the prevention, medical diagnosis, treatment and rehabilitation management of persons of all ages with **disabling health conditions** and their co-morbidities, specifically addressing their **impairments** and **activity limitations** in order to facilitate their physical and cognitive functioning (including behavior), **participation** (including quality of life) and modifying **personal** and **environmental factors***

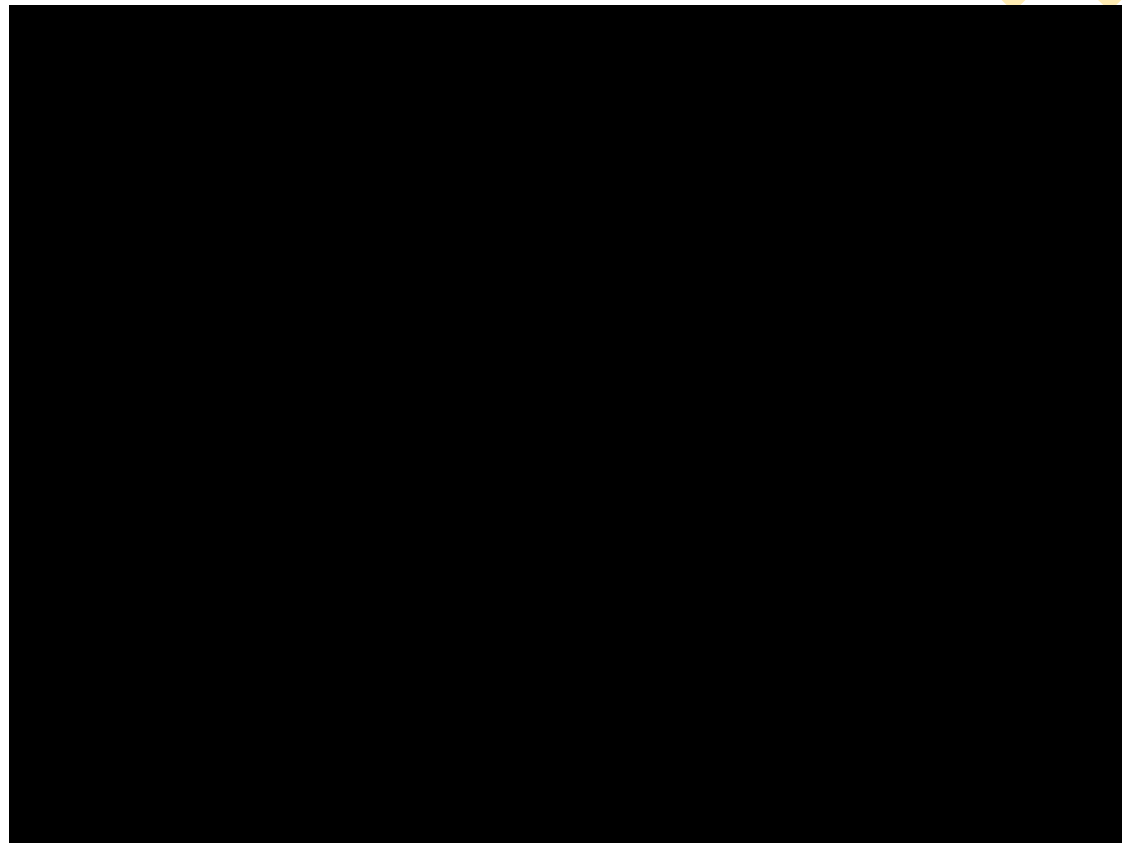


White Book on Physical and Rehabilitation Medicine (PRM) in Europe. Eur J Phys Rehabil Med. 2018. doi: 10.23736/S1973-9087.18.05143-2.





# PRM residents - *highway to hell*

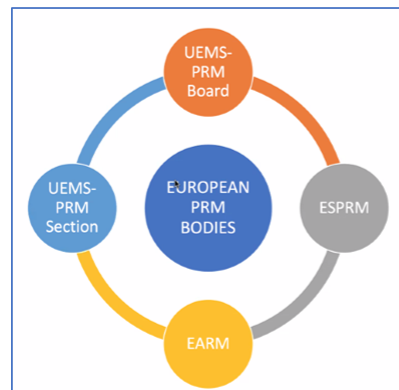




# Rehabilitation Medicine in Europe



## European PRM Organizations





Physical and Rehabilitation Medicine  
Section and Board  
of the European Union of Medical Specialists



<http://www.euro-prm.org/>



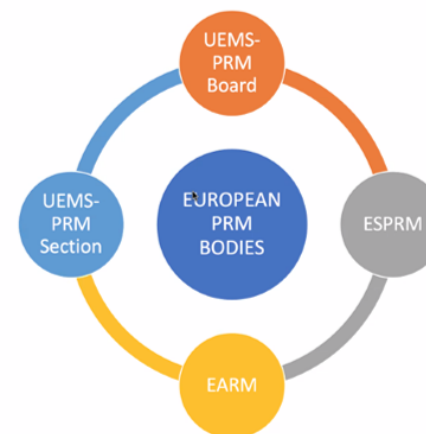
**ESPRM**

European Society of  
Physical & Rehabilitation Medicine

<http://www.esprm.net/>



<http://www.aemr.eu/>

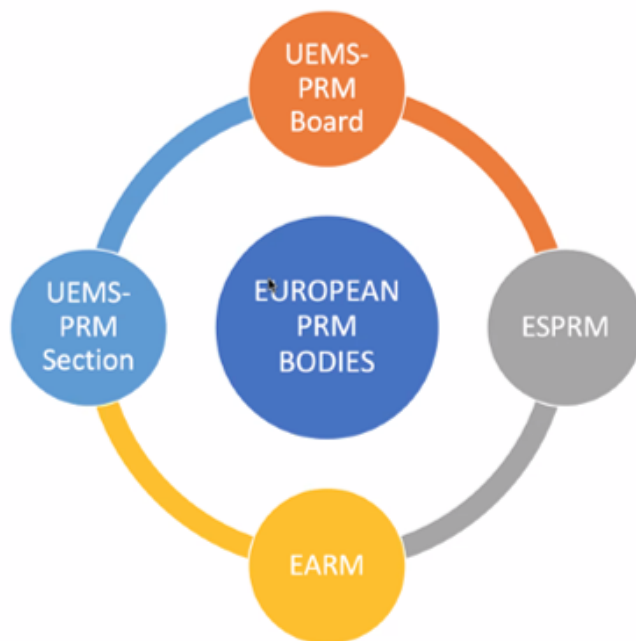






# Rehabilitation Medicine in Europe

## European PRM Organizations



Education in PRM  
Professional Practice and  
Quality in Rehabilitation  
Ethical Issues  
Promoting research  
and rehabilitation



**ESPRM**  
European Society of  
Physical & Rehabilitation Medicine





# Mediterranean Forum PRM





# Mediterranean Congress PRM

Haim Ring, 1996





# Mediterranean Congress PRM



**1<sup>st</sup> Med congress, Herzliya, Israel, 1996**







# PRM - a Mediterranean Society?



**Haim Ring**

**A Mediterranean PRM Society is it viable?**

Colleagues from

- Croatia
- Cyprus
- France
- Greece
- Israel
- Italy
- Jordan
- Portugal
- Slovenia
- Spain
- Turkey





# Mediterranean Congress PRM

## 3<sup>rd</sup> Mediterranean Congress PRM

***Mediterranean Forum PRM*** foundation  
Athens, Greece, **2000**



3<sup>rd</sup> Mediterranean Congress  
of Physical Medicine and Rehabilitation

3ο Μεσογειακό Συνέδριο  
Φυσικής Ιατρικής και Αποκατάστασης

Με την Υποστήριξη:  
• του Δήμου Αθηναίων  
• του Υπουργείου Υγείας & Πρόνοιας

Under the Patronage of:  
• the Municipality of Athens  
• the Ministry of Health & Welfare

Καρύατις, Βρετανικό Μουσείο, τόμος 16, πίνakas 25  
Karyatis, British Museum (Bm 407), Antike Plastik, volume 16, table 25

και 5ο ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ  
ΦΥΣΙΚΗΣ ΙΑΤΡΙΚΗΣ & ΑΠΟΚΑΤΑΣΤΑΣΗΣ

September 4-7, 2000 • Athens, Hellas  
4-7 Σεπτεμβρίου 2000 • Αθήνα

Training Centre of the National Bank of Greece  
Εκπαιδευτικό Κέντρο Εθνικής Τράπεζας της Ελλάδος

FINAL PROGRAM & ABSTRACT BOOK  
ΤΕΛΙΚΟ ΠΡΟΓΡΑΜΜΑ & ΒΙΒΛΙΟ ΠΕΡΙΛΗΨΕΩΝ



# Mediterranean Forum PRM



## Mission and Goals

- To be the scientific Mediterranean body..., of PRM
- To facilitate Mediterranean exchange...
- To organise a biennial Mediterranean **Congress** of PRM
- ... to support initiatives and co-operation in the field of teaching development of services and research in PRM
- ... to influence national governments
- ... to provide information to national governments about the contents and evidence-based efficacy of PRM







# Mediterranean Forum PRM



## Mediterranean Forum PRM

### Logo







# Mediterranean Forum PRM

## official journal - European Journal PRM

I also, inform you that, since July 2005, our official journal "EUROPA MEDICOPHYSICA" is indexed, thanks to the efforts of the new chief editor Stefano Negrini. This is a great success! We encourage all of you to submit your articles for publication to "Europa Medicophysica" since such publications will count the same as publications in any other indexed journal.

With my best regards,

Nicolas Christodoulou, MD, PhD,  
President of MFPRM.





# Mediterranean Forum PRM



## Euro-mediterranean PRM School - *Haim Ring*



EMRSS

## Euromediterranean PRM School

“ Haim Ring “

*c/o Fondazione Sant'Angela Merici-Siracusa*

PRESIDENT E.M.R.S.S.  
Francesco Cirillo





# Mediterranean Forum PRM



## 1<sup>st</sup> Euro-mediterranean PRM School - *Haim Ring* Syracuse, 2005

### EMRSS – LIST OF TOPICS OF 1<sup>st</sup> Course 6-7/11/2005 – Syracuse

During the works of the 1<sup>st</sup> School, lectures were given by the following colleagues on several topics:

1. Haim Ring: "Trends in Rehabilitation Medicine".
2. Nicolas Christodoulou: "The creation of Mediterranean Forum of Physical and Rehabilitation Medicine (MFPRM) and its role to the development of Rehabilitation in the Mediterranean Countries".
3. Franco Molteni: "Clinical and instrumental analysis: technological innovation for diagnosis and planning rehabilitation procedures".
4. Marco Franceschini: "Walking Measure and Energy Cost in Neurological Rehabilitation".
5. Michele Vecchio: "Electromyography as a diagnostic tool in Rehabilitation".
6. Luigi Tesio: "Outcome Measure and Rasch Analysis".
7. Franco Franchignoni: "Guidelines for selecting an outcome measure in Rehabilitation Medicine".





# Global Unification - ISPRM



# ISPRM

**the global agency for Physical and Rehabilitation Medicine (PRM)**

- foundation: **13<sup>th</sup> November, 1999\***
- the merger and integration of the\*
  - **IRMA** - International Rehabilitation Medicine Association
  - and
  - **IFPM&R** - International Federation of Physical and Rehabilitation Medicine

\* <http://www.isprm.org/discover/the-society/>



# ISPRM

**the global agency for Physical and Rehabilitation  
Medicine (PRM)**

- a non-governmental organization (NGO)
- in relation with the World Health Organization (WHO)
- **international umbrella organization** of PRM physician
- a catalyst for international PRM research

\* <http://www.isprm.org/discover/the-society/>

# ISPRM

## mission

- *to optimize functioning and health-related quality of life and minimize disability in persons with disabilities and medical problems throughout the world\**

## mandates\*\*

- **scientific**
- **professional**
- **humanitarian**

\* [www.isprm.org/discover/mission-goals/](http://www.isprm.org/discover/mission-goals/)

\*\* DeLisa JA, Melvin JL, Stucki G. Developing the International Society of Physical and Rehabilitation Medicine (ISPRM). Foreword. *J Rehabil Med* 2009 Sep;41(10):789-90



Assembly of Delegates – Kobe 2019





# Rehabilitation definition



## Rehabilitation definition (WHO)

*a set of interventions designed to **optimize functioning and reduce disability** in individuals with **health conditions in interaction with their environment***

Access: [www.who.int/news-room/fact-sheets/detail/rehabilitation](http://www.who.int/news-room/fact-sheets/detail/rehabilitation)





# PRM today and tomorrow

PRM's mission remains simple

- *restore function*
- *maximize quality of life*







# *Rehab Medicine* *present and future*



Dazaifu Tenmangu: bridge-**Present** and bridge-**Future**





# Rehabilitation- Key for health





# Rehabilitation- Key for health in the 21<sup>st</sup> Century



## Rehabilitation

- can reduce care costs
- can ensure healthy lives and promote well-being for all at all ages
- can enable participation in education and gainful employment

## *Rehabilitation services*

*imperative for health systems in the 21st century*





# Rehabilitation- Key for health in the 21<sup>st</sup> Century



*Rehabilitation is for all*





**Rehabilitation  
needs**

**Ageing**

**NCD**

**Injuries**

**Infectious  
diseases**





# Rehabilitation – future?





# Medicine



## Health care

- evolution of the Society: **↑ the demands** for health care
- Policymakers - must decide on the amount and type of resources the health care system requires (medical and non-medical workforce and infrastructure)
- There is not enough medical doctors (**MDs**) to answer to this steadily and permanent augmentation of the health needs
- “solution”
  - to turn previous “MD activities” in the hands non-medical health professionals, namely the predominantly “technical acts”



Rodriguez Santana I, Mason A, Gutacker N, Kasteridis P, Santos R, Rice N. Need, demand, supply in health care: working definitions, and their implications for defining access. Health Econ Policy Law. 2023 Jan;18(1):1-13. doi: 10.1017/S1744133121000293. Epub 2021 Oct 12. PMID: 36515132.



# Medicine - future



## Future

- **MDs** will be **at the top** of a complex and multi-layered pyramid of *health carers* that includes non-medical-professionals, robots, AI...
- **MDs** will be the one that must ***think*** and ***integrate*** all the information and data, taking care of that specific and **unique person**



RodBonfiglioli Stagni S, Tomba P, Viganò A, Zati A, Benedetti MG. The first world war drives rehabilitation toward the modern concepts of disability and participation. Eur J Phys Rehabil Med. 2015 Jun;51(3):331-6. Epub 2015 May 5. PMID: 25941048.



# PRM Specialist

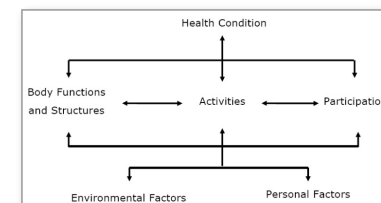


## Future

- PRM specialist responsible for
  - each **specific individual** - *the individual rehabilitation project*
  - with a *Health Condition* - ICF
  - in his **contextual** factors

i.e.

*his societal roles and expectations, regardless of the psychological and physical impairments\**



RodBonfiglioli Stagni S, Tomba P, Viganò A, Zati A, Benedetti MG. The first world war drives rehabilitation toward the modern concepts of disability and participation. Eur J Phys Rehabil Med. 2015 Jun;51(3):331-6. Epub 2015 May 5. PMID: 25941048.







# Rehabilitation Medicine



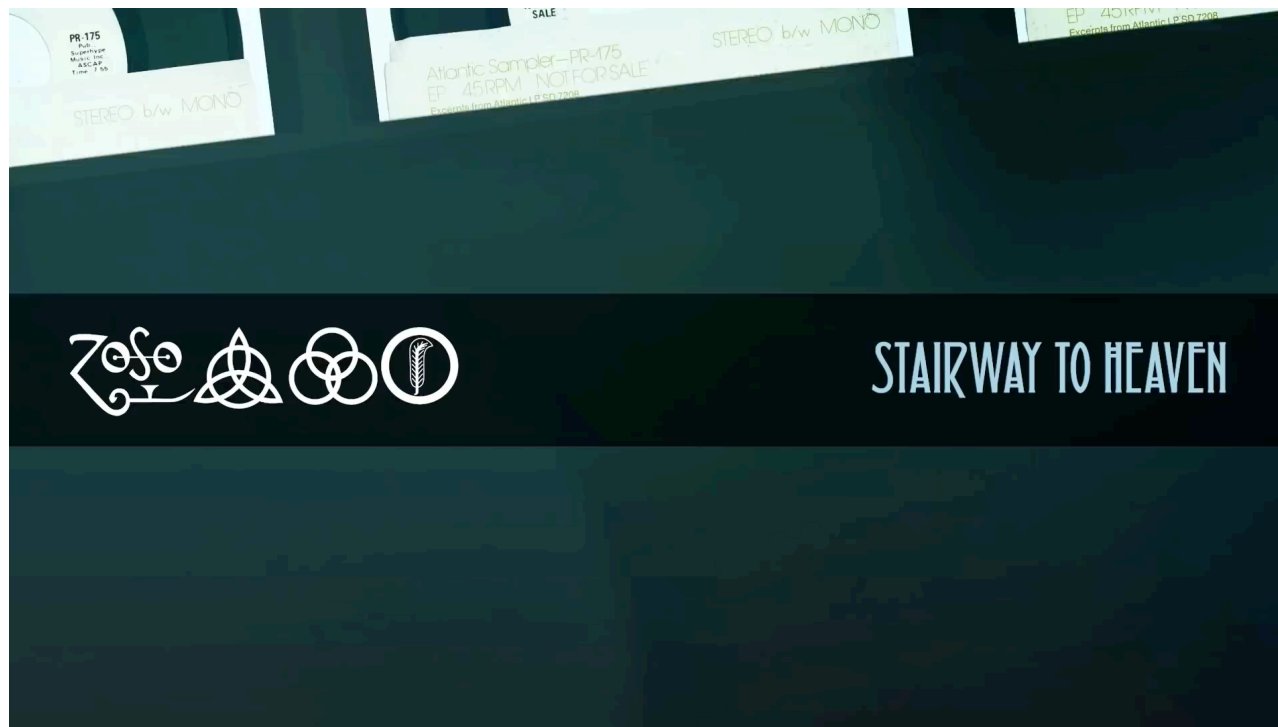
***Physiatrists can make the world a better place and create a better tomorrow***

Haim Ring, 2004





# PRM *stairway to heaven*



*there's no future without PRM*





E. M. R. S. S.

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Siracusa, Italy



## *History of Physical & Rehabilitation Medicine Worldwide*

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