

Report from the WALT Scientific Secretary 2012-2014

The period from the 9 th congress in Gold Coast, Australia has been busy and we have worked on putting our strategy for disseminating scientific information and about Low Level Laser Therapy and Light Therapy (LLLT) onto action. Key elements in the strategy have been:

- *To perform a “watch-dog”-function when LLLT misinformation or lack of knowledge about LLLT contribute to the development of false myths about LLLT*
- *To promote dissemination of scientific information in congresses, and to challenge censoring of new and important LLLT research findings*
- *To bring forward scientific information about LLLT to makers of national or international guidelines for specific diseases*
- *To work for establishing LLLT as a therapeutic tool within the boundaries of mainstream medicine and dentistry where scientific evidence is of sufficient quality.*
 - *To develop a framework for assessing quality in published LLLT trials*

During this period the following achievements have been reached:

The recommended dosage tables are evidence-based and both laser-type specific and location specific and according to the visitor statistics they appear to be a success. The Guidelines have been described and commented in an editorial in PMLS.

WALT guidelines have been cited in several scientific articles during the past two years.

LLLT in Medline/Pubmed

The annual output of studies has risen abruptly from the turn of the decade, and the number of scientific articles have in fact tripled since 2004. The output of scientific laser phototherapy papers in Medline is increasing with now a total number of 4048 papers, up from 1688 in 2008 hits for the Mesh term “Low-Level Laser Therapy”. The most popular study category is animal studies, which contribute with 1093, up from 418 studies in 2008. The Hottest topic has changed since the last WALT congress in 2012, and pain treatment is most popular with 143 papers, while wound healing (121 studies) and bone regeneration (76 studies) are trailing. Nerve injury, tendinopathy and arthritis stand for a few dozens of studies each. In terms of medical domains, dentistry, dermatology and physical therapy seem to be the most popular areas. Brazil has the largest publication country-wise

share with 34% of the papers. The official journal of WALT "Photomedicine and Laser Surgery" has a disappointly low and decreasing market share of 8% of published LLLT papers in PubMed.

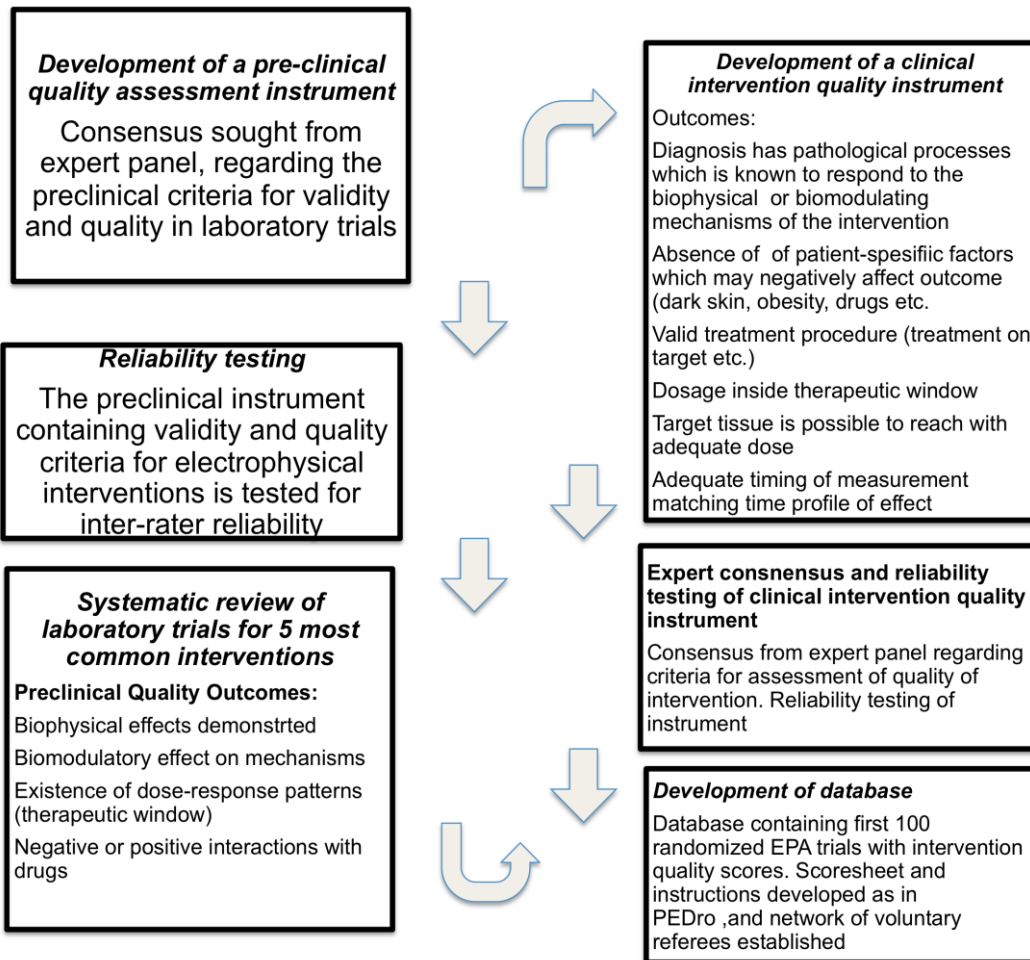
Other forms of laser like high power, narrow-bandwidth (LED) light therapy have increased published papers in Pubmed. These include invasive laser phototherapy techniques, laser phototherapy administered with high intensity (Class 4) laser, and LED therapy with variable bandwidths. There seems to be a need for clarification of both terms and definitions of different types of phototherapy. This will be further addressed in the next WALT/NAALT congress in Washington, USA.

LLLT in the PEDro database of clinical trials

At the PEDro database of clinical physical therapy studies in Sydney, Australia there are now listed 335 randomized controlled LLLT trials, up from 172 in 2008. 171 of the current trials can be classified as of acceptable or high quality in trial design because they score 6 or above on the 10-item Pedro scoring list.

The EPAQUAL initiative

The EPAQUAL initiative has been started by the Scientific Secretary, and is intended for all electrophysical agents (EPA) used with a therapeutic aim in Physical Therapy. It is targeting the lack of a systematic scientific approach in synthesizing evidence for specific mechanisms of action and their biophysical suitability, possible dose-response patterns and determination of adequate application procedures. It also includes the development of a specific tool for assessing the quality of interventions in published trials with EPAs. The EPAQUAL project has gained funding from the Physiotherapy Fund for post-graduate training in Norway. The flowchart below shows the consecutive stages of the project. Both the President and General Secretary of WALT have been involved in the development and project planning.



Laser phototherapy in other arenas (Cochrane Library, World Confederation of Physical Therapy, etc)

As part of the desired goal to implement laser phototherapy in mainstream medicine, we have worked in/towards other associations. The Cochrane Library are still using WALT dosage recommendations in their review of LLLT in low back pain, but as usual their lack of acknowledgement of LLLT must be interpreted as a consequence of the massive editorial board conflict of interests with the pharmaceutical firms. The same problem applies within the Osteoarthritis Research Society International (OARSI), where LLLT was mentioned in 2008 with the highest level of evidence. In spite of a number of new positive high quality LLLT studies in knee osteoarthritis, LLLT has been omitted from their recent 2014 update of guidelines.

On the positive side, LLLT has finally been admitted in a focused symposium involving our Scientific Secretary Jan M Bjordal, President Liisa Laakso, and members prof. David Baxter and Ernesto Leal Junior at the next World Confederation for Physical Therapy congress in Singapore, May 2015.

Internet links to WALT and LLLT

The Scientific Secretary has also contacted Wikipedia –the internet encyclopedia- and provided scientific information about LLLT and a link to the WALT website from Wikipedia “Low level laser

therapy” and “photobiomodulation” are now terms listed in Wikipedia. Still, Wikipedia seem to change both listings and the contents in their feature of LLLT irregularly.

Acknowledgments

Scientific Progress: LLLT – studies gain awards in mainstream

With the good help of board and council members several opportunities have been taken to promote LLLT and WALT. Many have contributed and should be equally valued as those who have been mentioned in the report. Apologies to those who have worked intensely for bringing laser phototherapy out from the shadows.

Jan M. Bjordal

Scientific Secretary

World Association for Laser Therapy

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