



Krajowa Izba  
Fizjoterapeutów

## *Fizjoterapia kliniczna – fakty i mity według Evidence Based Medicine*

Jakub Taradaj

Katedra Podstaw Fizjoterapii Akademia Wychowania Fizycznego im. Jerzego Kukuczki w Katowicach

NZOS Limf Med w Chorzowie

1.

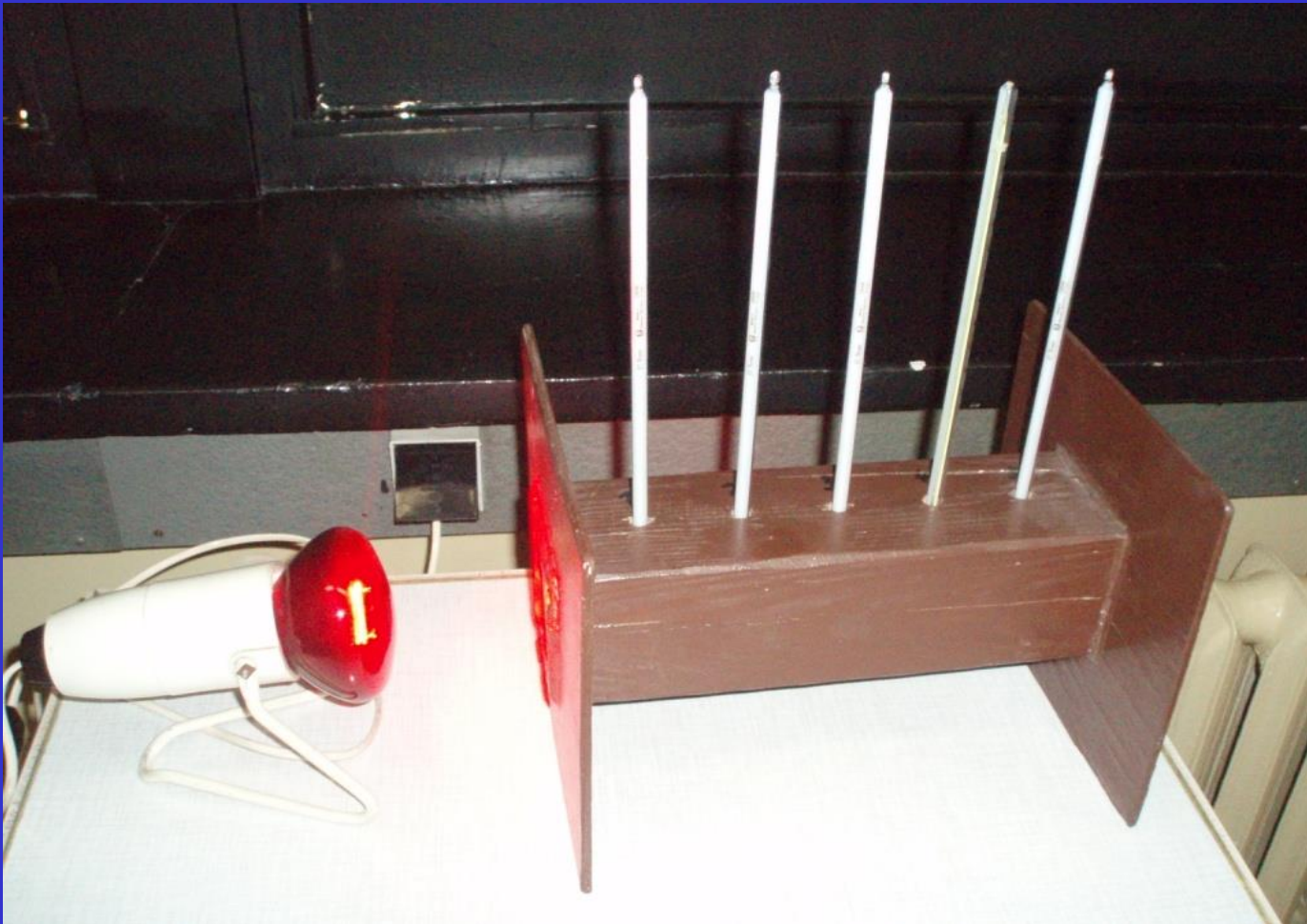
# Medycyna fizykalna, a choroby zwyrodnieniowo-wytwórcze stawów



Fototerapia w leczeniu przewlekłych bólów kręgosłupa,  
koksartrozy, gonartrozy, ostrogi piętowej i inne.....



# Fakty i mity



# Fakty i mity



**Cochrane  
Library**

Cochrane Database of Systematic Reviews

## Low level laser therapy for nonspecific low-back pain (Review)

Yousefi-Nooraie R, Schonstein E, Heidari K, Rashidian A, Pennick V, Akbari-Kamrani M, Irani S, Shakiba B, Mortaz Hejri S, Jonaidi AR, Mortaz-Hedjri S

Yousefi-Nooraie R, Schonstein E, Heidari K, Rashidian A, Pennick V, Akbari-Kamrani M, Irani S, Shakiba B, Mortaz Hejri S, Jonaidi AR, Mortaz-Hedjri S.

Low level laser therapy for nonspecific low-back pain.

*Cochrane Database of Systematic Reviews* 2008, Issue 2. Art. No.: CD005107.

DOI: 10.1002/14651858.CD005107.pub4.

[www.cochranelibrary.com](http://www.cochranelibrary.com)

# Fakty i mity



## HHS Public Access

Author manuscript

*Osteoarthritis Cartilage*. Author manuscript; available in PMC 2016 September 01.

Published in final edited form as:

*Osteoarthritis Cartilage*. 2015 September ; 23(9): 1437–1444. doi:10.1016/j.joca.2015.04.005.

### Effectiveness of low-level laser therapy in patients with knee osteoarthritis: a systematic review and meta-analysis

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#### Abstract

**Objective**—To investigate the efficacy of low-level laser therapy (LLLT) treatment of knee osteoarthritis (KOA) by a systematic literature search with meta-analyses on selected studies.

**Design**—MEDLINE, EMBASE, ISI Web of Science and Cochrane Library were systematically searched from January 2000 to November 2014. Included studies were randomized controlled trials (RCTs) written in English that compared LLLT (at least eight treatment sessions) with sham laser in KOA patients. The efficacy effective size was estimated by the standardized mean

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#### Contributions

Drs ZeYu Huang, FuXing Pei and Virginia Byers Kraus take responsibility for the integrity of the work as a whole. All authors had full access to all of the data in the study and take responsibility for the integrity of the data and accuracy of the data analysis.

Conception and design: ZeYu Huang, FuXing Pei, Virginia Byers Kraus.

Collection and assembly of data: ZeYu Huang, Jing Chen, Jun Ma.

Analysis and interpretation of the data: ZeYu Huang, Jing Chen, Jun Ma, Bin Shen.

Drafting and critical revision of the article: ZeYu Huang, Virginia Byers Kraus.

Final approval of the version to be submitted: ZeYu Huang, Jing Chen, Jun Ma, Bin Shen, FuXing Pei, Virginia Byers Kraus.

#### Conflict of interest

None of the authors have competing interests to disclose. No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

#### Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.joca.2015.04.005>.

# Elektroterapia przewlekłych bólów krzyża

(pupil NFZ czyli prądy DD !!!)

# Fakty i mity



**MEDICAL SCIENCE MONITOR** **CLINICAL RESEARCH**

e-ISSN 1643-3750  
© Med Sci Monit, 2017; 23: 85-100  
DOI: 10.12659/MSM.899461

Received: 2016.05.08  
Accepted: 2016.05.17  
Published: 2017.01.07

## Efficacy of Selected Electrical Therapies on Chronic Low Back Pain: A Comparative Clinical Pilot Study

**Authors' Contribution:** ABCDF 1 Joanna Rajfur  
Study Design A  
Data Collection B  
Statistical Analysis C  
Data Interpretation D  
Manuscript Preparation E  
Literature Search F  
Funds Collection G

**ACD 1** Małgorzata Pasternok  
**BCD 1** Katarzyna Rajfur  
**CDEF 1** Karolina Walewicz  
**BD 1** Beata Fras  
**CD 2** Bartosz Bolach  
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**Source of support:** Departmental sources

**Background:** In the currently available research publications on electrical therapy of low back pain, generally no control groups or detailed randomization were used, and such studies were often conducted with relatively small groups of patients, based solely on subjective questionnaires and pain assessment scales (lacking measurement methods to objectify the therapeutic progress). The available literature also lacks a comprehensive and large-scale clinical study. The purpose of this study was to assess the effects of treating low back pain using selected electrotherapy methods. The study assesses the influence of individual electrotherapeutic treatments on reduction of pain, improvement of the range of movement in lower section of the spine, and improvement of motor functions and mobility.

**Material/Methods:** The 127 patients qualified for the therapy (ultimately, 123 patients completed the study) and assigned to 6 comparison groups: A – conventional TENS, B – acupuncture-like TENS, C – high-voltage electrical stimulation, D – interferential current stimulation, E – diadynamic current, and F – control group.

**Results:** The research showed that using electrical stimulation with interferential current penetrating deeper into the tissues results in a significant and more efficient elimination of pain, and an improvement of functional ability of patients suffering from low back pain on the basis of an analysis of both subjective and objective parameters. The TENS currents and high voltage were helpful, but not as effective. The use of diadynamic currents appears to be useless.

**Conclusions:** Selected electrical therapies (interferential current, TENS, and high voltage) appear to be effective in treating chronic low back pain.

**MeSH Keywords:** Electric Stimulation • Low Back Pain • Physical Therapy Specialty

**Full-text PDF:** <http://www.medscimonit.com/abstract/index/idArt/899461>

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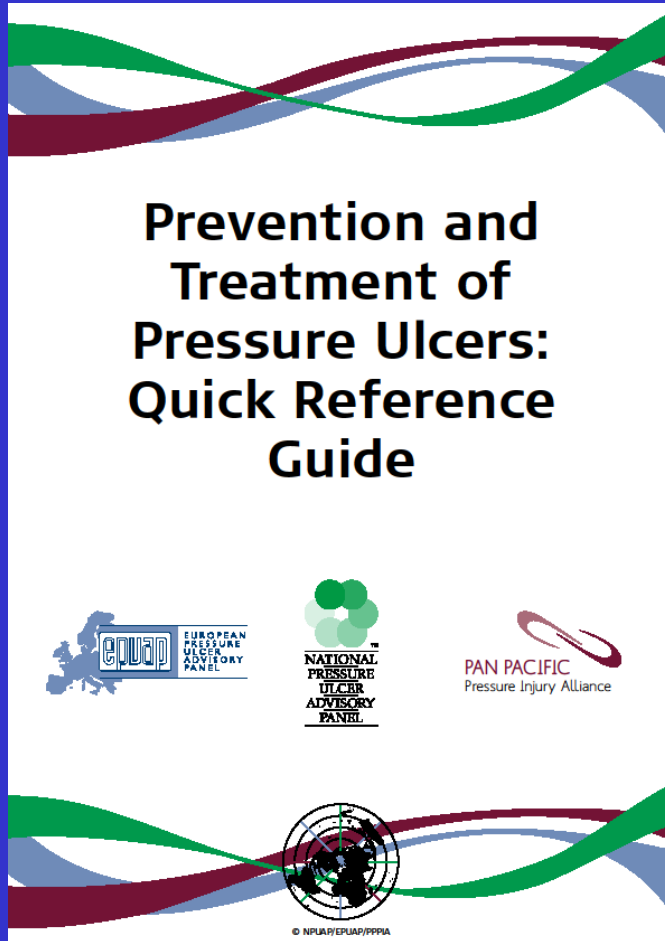


2.

**Evidence Based Medicine (EBM), a medycyna fizykalna  
w leczeniu odleżyn**



# Fakty i mity




# Elektroterapia w prasie!!!

29.09.2016 GSK and Google parent forge \$715 million bioelectronic medicines firm | Reuters


EDITION: UNITED STATES

Business Markets World Politics Tech Commentary Breakingviews Money Life

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DEALS | Mon Aug 1, 2016 | 5:34am EDT

## GSK and Google parent forge \$715 million bioelectronic medicines firm



A GlaxoSmithKline logo is seen outside one of its buildings in west London, February 6, 2008. REUTERS/Toby Melville/Ffile Photo

By Ben Hirschler | LONDON

GlaxoSmithKline and Google parent Alphabet's life sciences unit are creating a new company focused on fighting diseases by targeting electrical signals in the body, jump-starting a novel field of medicine called bioelectronics.


Verily Life Sciences - known as Google's life sciences unit until last year - and Britain's biggest drugmaker will together contribute 540 million pounds (\$715 million) over seven years to Galvani Bioelectronics, they said on Monday.

The new company, owned 55 percent by GSK and 45 percent by Verily, will be based at GSK's Stevenage research center north of London, with a second research hub in South San Francisco.

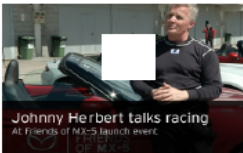
It is GSK's second notable investment in Britain since the country voted to leave the European Union in June. Last week it announced plans to spend 275 million pounds on drug manufacturing.

Galvani will develop miniaturized, implantable devices that can modify electrical nerve signals. The aim is to modulate irregular or altered impulses that occur in many illnesses.

GSK believes chronic conditions such as diabetes, arthritis and asthma could be treated



Friends of MX-5 racers take on Mazda Raceway Laguna Seca



Johnny Herbert talks racing  
At Friends of MX-5 launch event

### TRENDING STORIES

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<http://www.reuters.com/article/us-gsk-alphabet-idUSKCN10C1V2>

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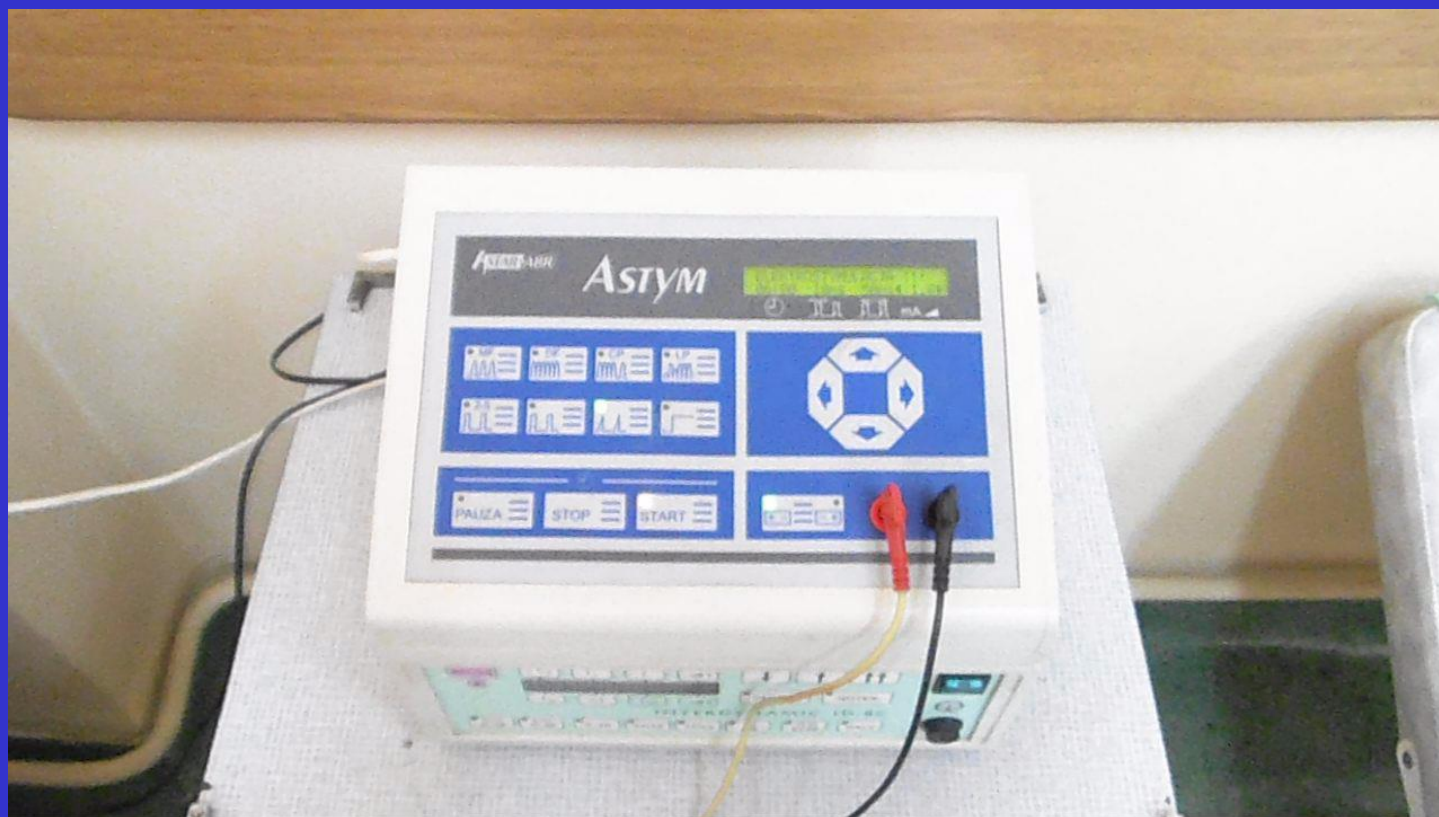
## Bioelectronics

GSK's Bioelectronics R&D unit is pursuing a relatively new scientific field that could one day result in a new class of medicines that would not be pills or injections but miniaturised, implantable devices. GSK believes that these devices could be programmed to read and correct the electrical signals that pass along the nerves of the body, including irregular or altered impulses that can occur in association with a broad range of

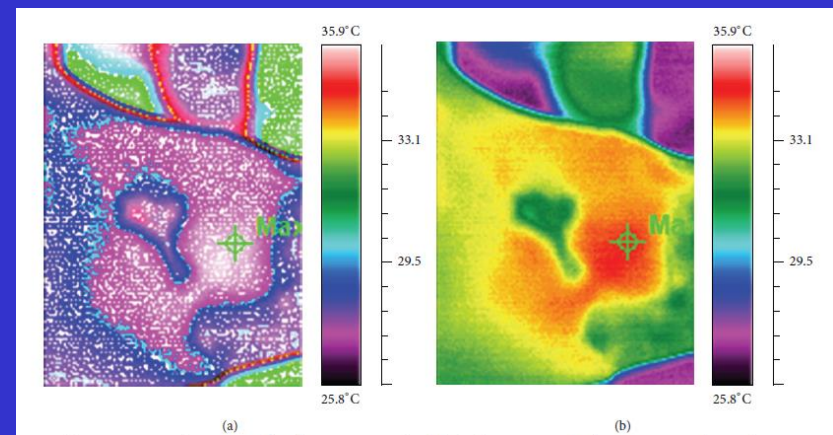
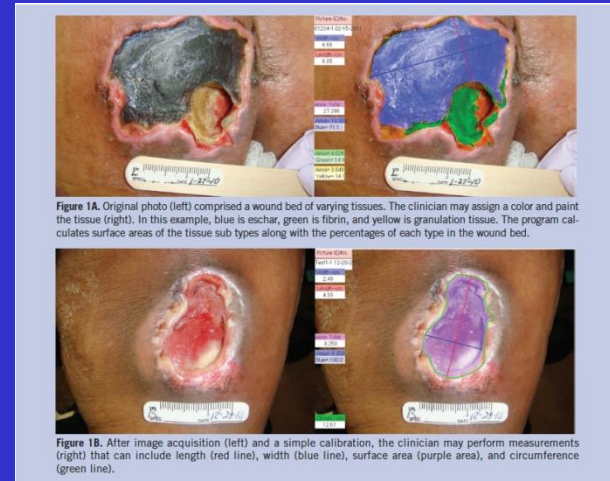
# Elektroterapia odleżyn: metodyka



# Elektroterapia odleżyn: metodyka



# Elektroterapia odleżyn: metodyka (czas zabiegu: 1 cm<sup>2</sup>=2 minuty)



# The Efficacy of Pressure Ulcer Treatment With Cathodal and Cathodal-Anodal High-Voltage Monophasic Pulsed Current: A Prospective, Randomized, Controlled Clinical Trial

Anna Polak, Luther C. Kloth, Edward Blaszczak, Jakub Taradaj, Agnieszka Nawrat-Szoltysik, Tomasz Ickowicz, Ewa Hordynska, Andrzej Franek, Cezary Kucio

**Background.** Studies show that anode and cathode electrical stimulation (ES) promotes the healing of wounds, but specific protocols for both electrodes are not available.

**Objective.** To compare the effectiveness of cathodal versus cathodal+anodal ES in the treatment of Category II-IV pressure ulcers (PrUs).

**Design.** Prospective, randomized, controlled, clinical study.

**Setting.** Three nursing and care centers.

**Patients.** Sixty-three participants with PrUs were randomly formed into a cathodal ES group (CG: N = 23; mean age of 79.35; SD 8.48), a cathodal+anodal ES group (CAG: N = 20; mean age of 79.65; SD 11.44) and a placebo ES group (PG: N = 20; mean age of 76.75; SD 12.24).

**Intervention.** All patients were treated with standard wound care and high-voltage monophasic pulsed current (HVMP; twin-peak impulses; 154  $\mu$ s; 100 pps; 0.25 A; 250  $\mu$ C/s) for 50 minutes per day, 5 times a week, for 6 weeks. The CG, CAG, and PG received, respectively, cathodal, cathodal+anodal, and sham ES through electrodes placed on a moist gauze pad. The treatment electrode was placed on the wound, and the return electrode was positioned on healthy skin at least 20 cm from the PrU.

**Measurements.** Measurements were made at baseline, and after each of the 6 weeks of treatment. Primary outcome was percentage wound surface area reduction at week 6.

**Results.** Wound surface area decreased in the CG by 82.34% (95% confidence interval [CI] 70.06-94.63) and in the CAG by 70.77% (95% CI 53.51-88.04). These reductions were significantly greater than in the PG (40.53%; 95% CI 23.60-57.46). The CG and CAG were not statistically significantly different regarding treatment results.

**Limitations.** The time of treatment proved insufficient for PrUs to close.

**Conclusions.** Cathodal and cathodal+anodal HVMP similarly reduced the area of Category II-IV PrUs.

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[Polak A, Kloth LC, Blaszczak E, et al. The Efficacy of Pressure Ulcer Treatment With Cathodal and Cathodal-Anodal High-Voltage Monophasic Pulsed Current: A Prospective, Randomized, Controlled Clinical Trial. *Phys Ther*. 2017;97:777-789.]

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Published Ahead of Print:

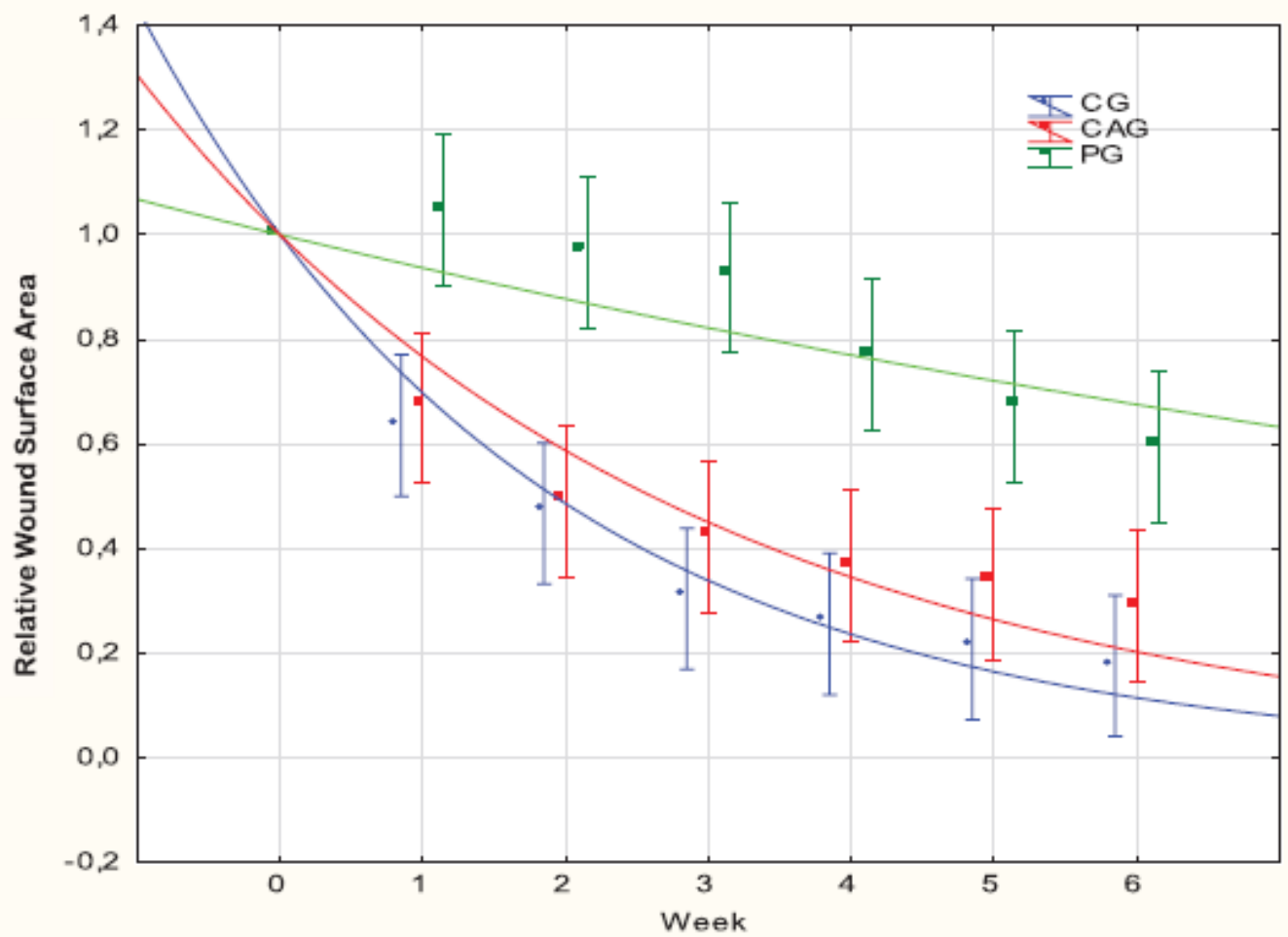
May 4, 2017

Accepted: May 3, 2017

Submitted: July 17, 2016



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3.

**Evidence Based Medicine (EBM), a fizjoterapia w  
leczeniu obrzęku limfatycznego**



## The influence of Kinesiology Taping on the volume of lymphoedema and manual dexterity of the upper limb in women after breast cancer treatment

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TARADAJ J., HALSKI T., ROSINCZUK J., DYMAREK R., LAUROWSKI A. & SMYKLA A. (2016) *European Journal of Cancer Care* 25, 647–660

**The influence of Kinesiology Taping on the volume of lymphoedema and manual dexterity of the upper limb in women after breast cancer treatment**

The aim of our study was to evaluate the effect of Kinesiology Taping (KT) on the size of lymphoedema and manual dexterity of the upper limb in women after breast cancer treatment. We also examined whether the application of KT can replace the traditional and standard multilayered bandaging in the treatment of upper extremity lymphoedema. Group A comprised of 22 patients who underwent KT as well as pneumatic and manual lymphatic drainage. Then, group B comprised of 23 patients who were treated with quasi-KT as well as pneumatic and manual lymphatic drainage. In contrast, group C had 25 patients subjected only to the standard procedure – pneumatic and manual lymphatic drainage and multilayered bandaging. Patient evaluation items included limb size, grip strength and range of motion. After 4-week therapy, we observed that KT is not an effective method of reducing lymphoedema II and III<sup>o</sup> in women after breast cancer treatment. At this moment, the taping cannot replace the traditional and standard multilayered bandaging in the treatment of upper extremity lymphoedema.

**Keywords:** Kinesiology Taping, lymphoedema, compression therapy.

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Accepted 17 April 2015  
DOI: 10.1111/ecc.12881

*European Journal of Cancer Care*, 2016, 25, 647–660

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### INTRODUCTION

Lymphoedema of the upper limb is a very troublesome consequence of the breast cancer treatment and has a significant impact on the quality of life of patients. It occurs in approximately 8–38% of treated patients, and is directly related to the type of surgery performed and the necessity



# Fakty i mity



**Analiza skuteczności poszczególnych procedur  
fizjoterapeutycznych w leczeniu obrzęku limfatycznego:  
rekomendacje w świetle *Evidence Based Medicine (EBM)***

**Opracowanie: prof. dr hab. Jakub Taradaj**  
Grupa Ekspertów ds. Nauki przy Krajowej Izbie Fizjoterapeutów

2017

Strona 1

Dziękuję za uwagę

