

Skóra zwierciadło duszy i ciała,...

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Agenda

1. Skóra jako (nasz największy) narząd
2. Funkcje skóry – czy tylko ładne opakowanie?
3. Co szkodzi (nie tylko skórze)
4. Jak wpłynąć na dobrostan skóry
5. Manifestacje skórne chorób internistycznych
 - a. Zespoły paraneoplastyczne
6. Ozonoterapia a skóra

Skóra

1. Naskórek

1. Warstwa rogowa
2. Warstwa ziarnista
3. Warstwa kolczysta
4. Warstwa podstawna

2. Skóra właściwa

3. Tkanka podskórna

*Raki i czerniak

Funkcje skóry

– czy tylko ładne opakowanie?

- ochronna
- termoregulacyjna
- oczyszczająca
- odpornościowa (DC/APC, Wit. D3, mikroflora)
- funkcje percepcyjne (ciepło, ból, dotyk)
- gospodarka wodno-elektrolitowa,
- gospodarka tłuszczowa
- wymiana gazowa
- wchłanianie

Co szkodzi (nie tylko skórze)

- kosmetyki (np. szminki z Pb)
- parabeny
- ftalany
- laurylosiarczan sodu (SLS)
- bisfenol A (BPA)
- fenoksyetanol
- talk
- glikokortykosteroidy

Manifestacje skórne

„Strassendiagnose”

-SLE

-rumień guzowaty (paciorkowce, sarkoidoza, CU)

-choroby bakteryjne i wirusowe

-choroby autoimmunizacyjne

-facies mitralis

-HIV i AIDS

-...

-objawy paranowotworowe

Zespoły paraneoplastyczne

Świad!

Acanthosis nigricans maligna, (rogowacenie ciemne)

Acrokeratosis neoplastica (Paraneoplastyczne rogowacenie dłoni i stóp, zesp. Bazexa)

Acanthosis palmaris,

erythema gyratum repens,

rumień nekrotyczny wędrujący,

pęcherzyca paraneoplastyczna,

osteartropatia przerostowa,

piodermia zgorzelinowa,

pemfigoid paraneoplastyczny,

zespół Sweeta,

zespół Lesera-Trélata,

rybia łuska nabyta

Rogowacenie ciemne



Rogowacenie dłoni i stóp



Erythema gyratum



Jak wpłynąć na dobrostan skóry

- kolagen
- witamina C
- karotenoidy
- kwasy omega-3
- krzem
- cynk
- wit. B (1,2,3,6,7)
- chlorella
- ...

Jak wpłynąć na dobrostan skóry

-detox

-nawodnienie

-natłuszczenie

-słońce

-sen

-masaż

-oddech

-sauna

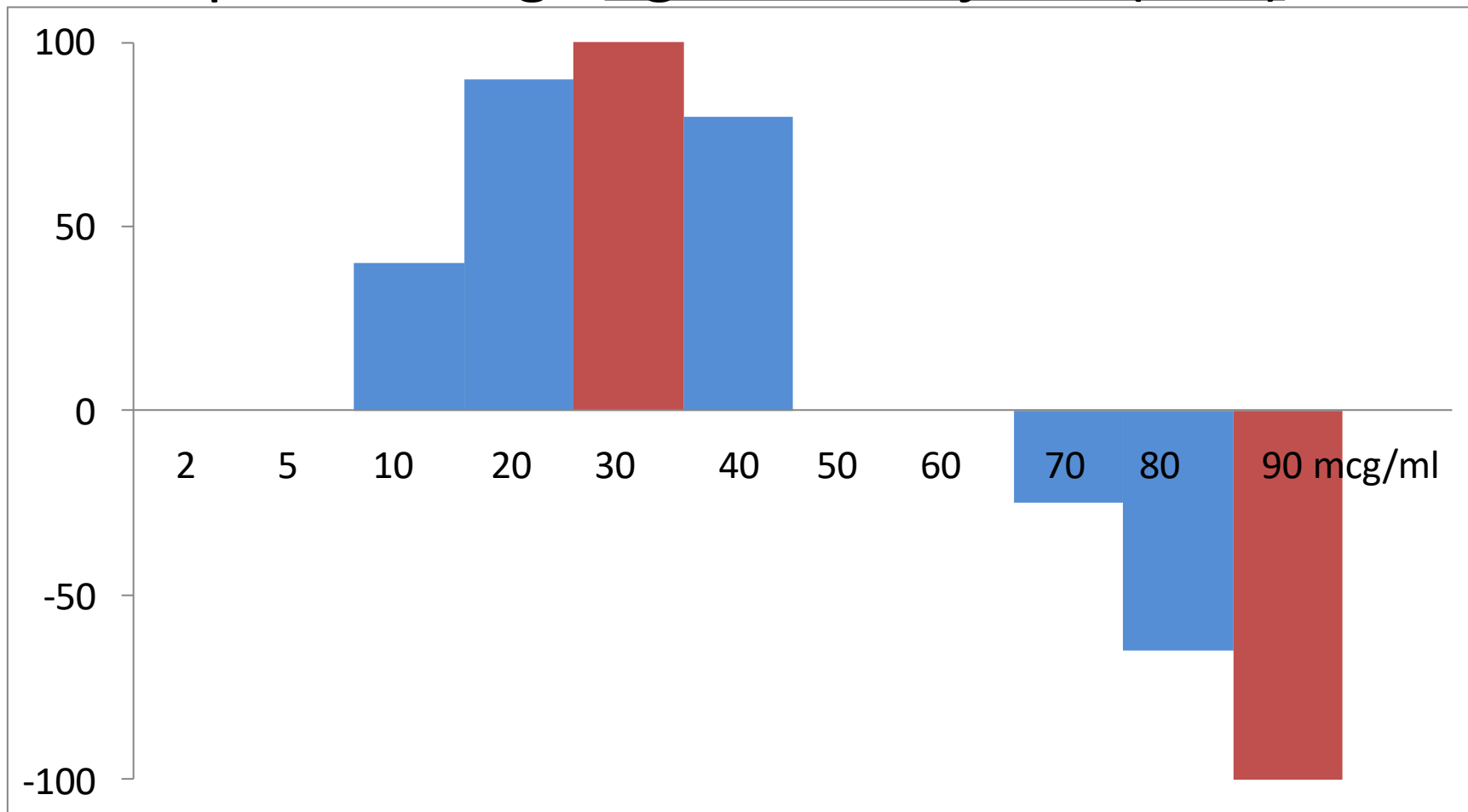
-wysiłek fizyczny

-...

Ozonoterapia

- poprawia elastyczność błon komórkowych
- poprawia miejscową oksigenację
- wzmacnia właściwości hydrofilowe skóry
- działa p/grzybiczo, p/bakteryjnie, p/wirusowo
- wspomaga gojenie i regenerację skóry
- poprawia metabolizm komórek
- działa p/bliznowo
- wpływa na syntezę antyoksydantów
- działa immunomodulująco, p/zapalnie

Zależność skuteczności [%] od stężenia ozonu [mcg/ml] podawanego ogólnoustrojowo (LAH)

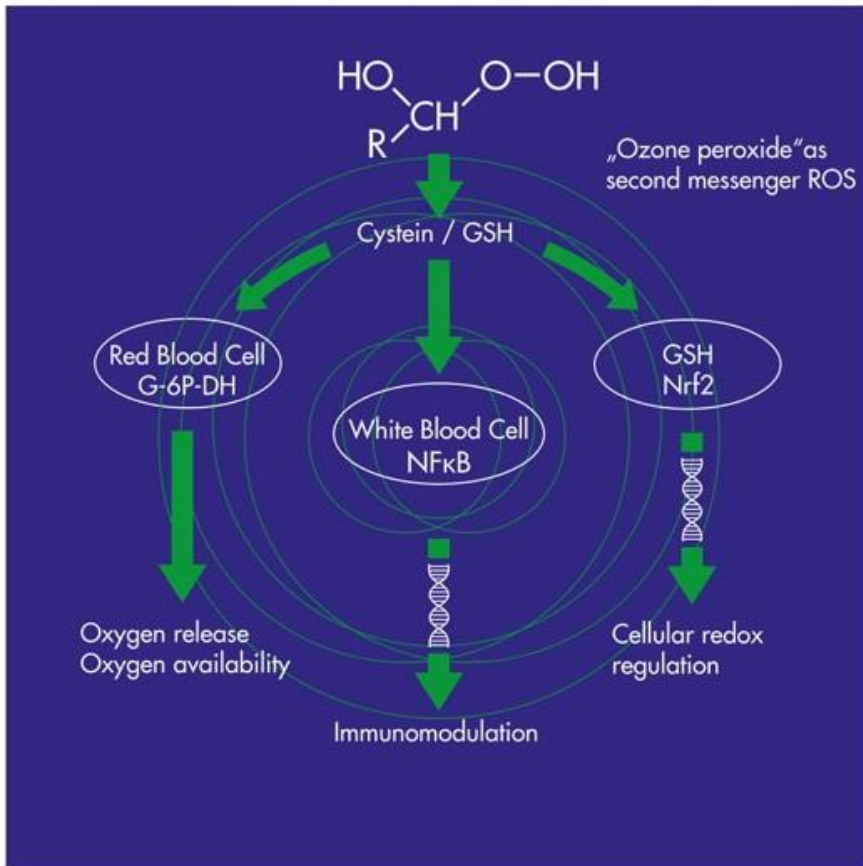


Low-Dose Ozone Concept

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Cellular Ozone effects following the low dose concept



I. INTRODUCTION

Ozone in Medicine: The Low-Dose Ozone Concept—Guidelines and Treatment Strategies

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The low-dose ozone concept with its moderate oxidative stress represents an ideal hormesis strategy. Dose-response and concentration-effect relationships in the context with specific applications allow one to fix concentration ranges with therapeutic benefit. Based on the well-known reaction mechanisms of ozone, its biochemical and pharmacological effects, international guidelines have to be defined concerning physiological and ozone resistant materials, indications, applications and the effective concentration and dosage range in dependence on the specific indications. Following the international regulations of ozone concentrations outdoors and indoors, as working site concentrations by WHO (World Health Organization) and in conformance with the Medical Device Directives (MDD) for quality assurance and control, some European Medical Societies for the Use of Ozone have set up a draft for the essential requirements for the treatment procedures, including: (a) production of Medical Ozone; reactivity of O₃ and ozone-resistant materials; (b) ozone-free surroundings (WHO regulations) by the integration of effective catalytic systems; (c) ozone-resistant and physiologically indifferent materials used in disposables for MAH, intra-articular, intramuscular and other topical injections (for rectal insufflation, topical treatment as transcutaneous gas bath and/or disinfection); (d) medical device directives for safety of the patient; (e) ozone measurement as requirement for concentrations and dosages; and, (f) concentration, dosages, and treatment frequency are listed in dependence on the indication and disease as well as on the underlying mechanism of action.

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The opinions and conclusions expressed in this article are those of the authors and contributors, and do not necessarily reflect those of the International Ozone Association, the editors, Editorial Board, or Taylor & Francis. Readers are to make their own decisions with regard to the work presented. These medical articles are enclosed, as in the past, as a service to the members of the IOA interested in medical applications.

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INTRODUCTION

When used in specific diseases and conditions, medical ozone produces the same or similar therapy results worldwide. Improper application in the form of erratic methods and doses is the most frequent cause of ineffectiveness and adverse effects—and is always the cause of violent controversies.

For this reason, the medical societies for ozone application have set up treatment protocols as basis for standards and guidelines, revised and published as a result of the most recent research and 30 years of experience (Beck et al. 1998; Knoch et al. 2009). They have been used in the standardization of applications, indications, concentrations, doses, and frequency of treatment as based on the mechanism of action and the pharmacology of ozone.

1. In its pharmacological effect, medical ozone follows the principle of hormesis: low concentrations (or doses) show a high efficacy, which decreases with increasing concentration, finally reversing into a questionable and even toxic effect (Figure 1). The effect/concentration relationship for the systemic application of ozone—in the form of a standardized major ozone autohemotherapy and rectal ozone gas insufflation results in the following concentration ranges: concentrations of 10–40 µg ozone/ml ozone/oxygen mixture represent those levels that are physiologically effective and recommended for systemic application. In the high concentration range of 60–100 µg/ml the antibiotic effect of ozone has a wide range of applications in the treatment of infected wounds, diabetic foot, decubitus

Zastosowanie ozonoterapii w:

- chirurgii (oparzenia, przewlekłe rany, odleżyny,...)
medycynie przeciwstarzeniowej (anty-aging),
dermatologii (łuszczyca, trądzik, AZS,...)
- medycynie estetycznej (blizny, rozstępy,
zmarszczki, pajęczki naczyniowe, cellulitis...)
- diabetologii (stopa cukrzycowa)
- ostre i przewlekłe zakażenia (HSV, VZV, grzybice)
- przewlekłe choroby zapalne

- Oparzenia



Metody ozonoterapii

- Systemowe

 - LAH (Large AutoHaemotherapy)

 - SAH (Small AutoHaemotherapy)

 - RI (Rectal Insufflation)

 - (0,9% NaCl)

- Miejscowe

 - Postać gazowa

 - Rękawy ozonowe

 - s.c.

 - Inne (ozonowana oliwa, woda)

LAH (Large AutoHaemotherapy)

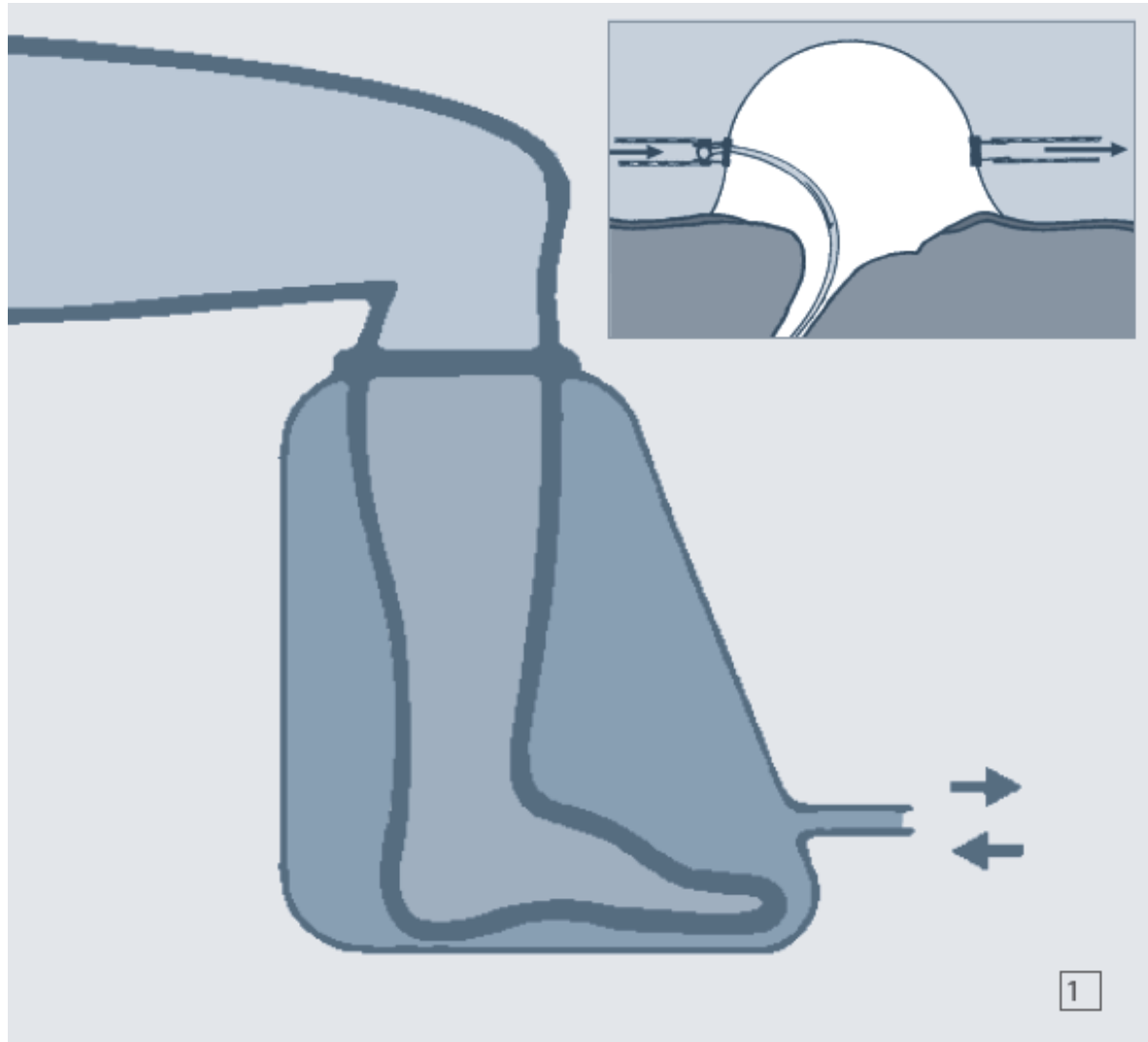
Micro-Bubble-System

Low Dose Ozone Concept



The Micro-Bubble-System for perfect ozone supply and an optimum of efficacy by Major Autohemotherapy.

But ozonowy



Increased growth factors play a role in wound healing promoted by noninvasive oxygen-ozone therapy in diabetic patients with foot ulcers.

[Zhang J](#), [Guan M](#), [Xie C](#), [Luo X](#), [Zhang Q](#), [Xue Y](#).

[Oxid Med Cell Longev](#). 2014;2014:273475. doi: 10.1155/2014/273475. Epub 2014 Jun 24.

oliwa ozonowana

Antibacterial activity of ozonized sunflower oil (Oleozon).

Sechi L.A., Lezcano I., Nunez N., Espim M., Dupre I.,
Pinna&A., Molicotti P., Fadda G., Zanetti S.:

J. Appl. Microbiol. 90, 279–284

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