

Evidence-based device for Qi and Blood Circulation

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No clear definition of Qi

- There is no one definition for *Qi*.
- Too many and too broad - *vital energy, breath, air, gas, spirit* or some kind of mysterious *force*.
- Recognized as key to life – covered by early Chinese philosophy, religion, geomancy, martial arts, meditation methods, acupuncture, herbal therapy, shamanism.
- We restrict to understanding in original Traditional Chinese Medicine (TCM).

TCM understanding of Qi

- Basis – original texts - *Huangdi Neijing* or “*Yellow Emperor’s Classic of Internal Medicine*” – more than 2000 years old.
- Literal translation of *Qi* - ***air*** or ***breath***
- Ancient Chinese already performing dissections and understood blood circulation.

Role of blood circulation

- Central role in cardiovascular physiology.
- Basis of many important health problems.
- Despite evidence, importance has been ignored.
- TCM recognizes the central role of blood circulation.
- Common TCM understanding of blood circulation links with Qi.

Correct translation of Qi in TCM

- Popular understanding presents Qi as “energy” co-existing with blood.
- *Huangdi Neijing* authors described the lungs breathing in “Da Qi”, or literally “**great air**”.
- Qi as *energy*, first translated into French by Georges Soulie de Morant, a French diplomat.
- Lungs extract a vital *air* substance from “great air”. It is **oxygen**.

Qi relationship with Blood

- Main function of red blood cells (RBC) is to carry oxygen and perfuse into tissues.
- Qi “nourishes the body”.
- TCM teaches that Qi resides in blood. *Oxygen* is the “nourishing” molecule that resides in blood.

Meridian and Blood Vessels

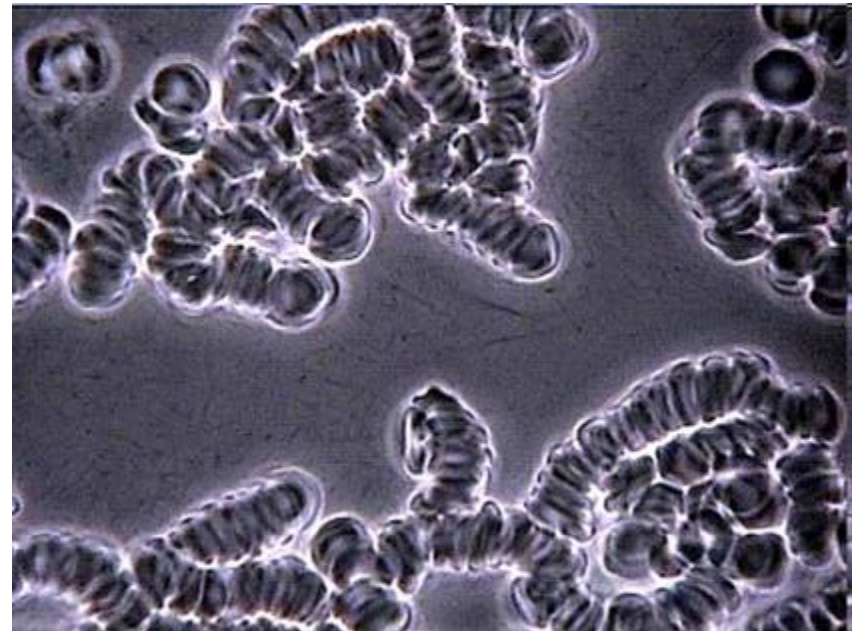
- In *Huangdi Neijing*, “Mai” describes the *vessels*. “Xue Mai” would be literally translated as *blood vessel* (“xue” being blood).
- Soulie de Morant (who had identified Qi with energy) translated Mai incorrectly as the French word “Meridian”.
- Original texts already had drawings of major arteries as *Mai*.
- “Meridian” is a misnomer for arterial networks.

Yin, Yang and Homeostasis

- In modern biology, balance of Yin and Yang is equivalent to *homeostasis* – the condition in which the body or cell maintain equilibrium/stability/balance.

Blood Stasis

- Blood stagnation to be avoided - in any language.
- Related to symptoms of old-age, slow-down, senility, vulnerability to diseases, then end of life.
- Manifested as RBC aggregation



Blood stasis to RBC aggregation

- Association of blood stasis with RBC aggregation backed by research.
- Due to macromolecular proteins - fibrinogen is dominant.
- Fibrinogen is sensitive to inflammation and helps with the blood clotting function.
- RBC aggregation due to imperfect health.

RBC aggregation = health dangers

- Blood has non-Newtonian fluid behaviour.
- RBC aggregation (along with hematocrit and plasma viscosity) is a factor contributing to low shear stress.
- Low shear stress leads to plaque deposits which leads to vascular blockage and clot.
- Low shear stress leads to high whole blood viscosity.
- High blood viscosity and RBC aggregation affect blood circulation, cardiovascular diseases and other diseases.

RBC aggregation on Blood Circulation

- Evidence show that RBC aggregation impedes blood flow – increases flow resistance, affect the bulk viscosity, increased energy cost of disaggregation, decreases capillary microcirculation .
- Low shear rate increases venous flow resistance.
- Aggregation greatly increases resistance to blood perfusion to the organs.
- Alterations in RBC aggregation affect tissue hematocritic values (the ratio of blood volume occupied by RBC).

RBC aggregation as independent risk factor

- Studies support RBC aggregation as independent risk factor for vascular occlusive disorder.
- And thrombosis both in arterial and venous systems.

TCM modalities

- Acupuncture, qigong exercise and herbal therapy.
- Acupuncture is effective for some conditions only, mainly pain therapy. Studies point to placebo effect.
- Acupuncture are based on *pressure points*, *acupoints* or *nodes*, where there are fine branches of and related.
- Herbal therapy and qigong are more holistic. They improve overall blood circulation but the evidence are even more scarce.

TCM contribution to modern medicine

- Nothing of substance to add to modern medicine...but...
- TCM takes a more holistic approach to conventional medicine - greater emphasis on harnessing natural healing ability.
- Takes care of the blood circulation in a holistic way.

Need a therapy for Blood Circulation

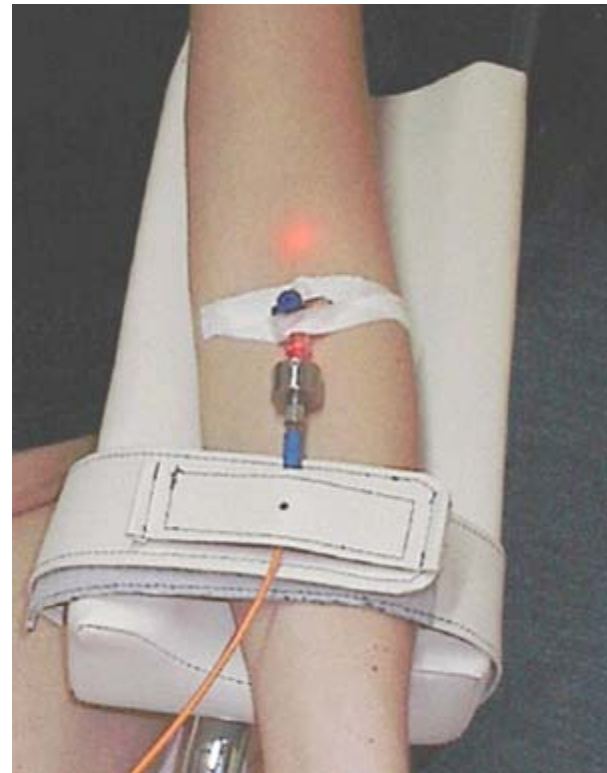
- Blood circulatory system performs key functions.
- Evidence-based medicine challenges TCM which explains as *energy-meridian* system, with the influence of astrological and spiritual elements.
- Need a non-drug evidence-based therapy that will improve blood circulation in the tradition of TCM.
- RBC disaggregation will lead to improved blood circulation.

Using low level light therapy

- Evidence-based and largely overlooked by the North American medical communities.
- Russians use an invasive for more than 30 years.

Low level laser therapy in use

- Evidence-based and largely overlooked by the North American medical communities.
- Russians use an invasive for more than 30 years.



Credibility of LLLT

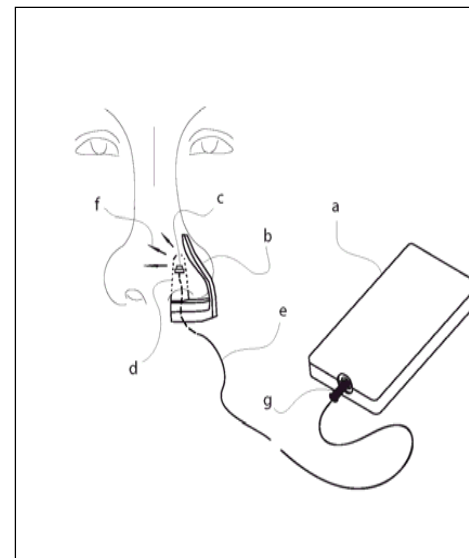
- 1.5 million Europeans get treated this way annually.
- 2500 papers published on LLLT.
- Has scientific background, safe, effective, no side effect.

Theories behind LLLT disaggregation of RBC

- Anti-inflammation theory: LLLT reduces inflammation → reduces fibrinogen → disaggregate RBC.
- Photodissociation theory: Haemoglobin a primary photoacceptor absorbs radiation results in partial photodissociation (breaking down of chemical compounds with light) of hemoglobin-ligand (substance to bind biomolecules).
- Transient local heating: Increase in temperature causes structural changes, and trigger biochemical activity.

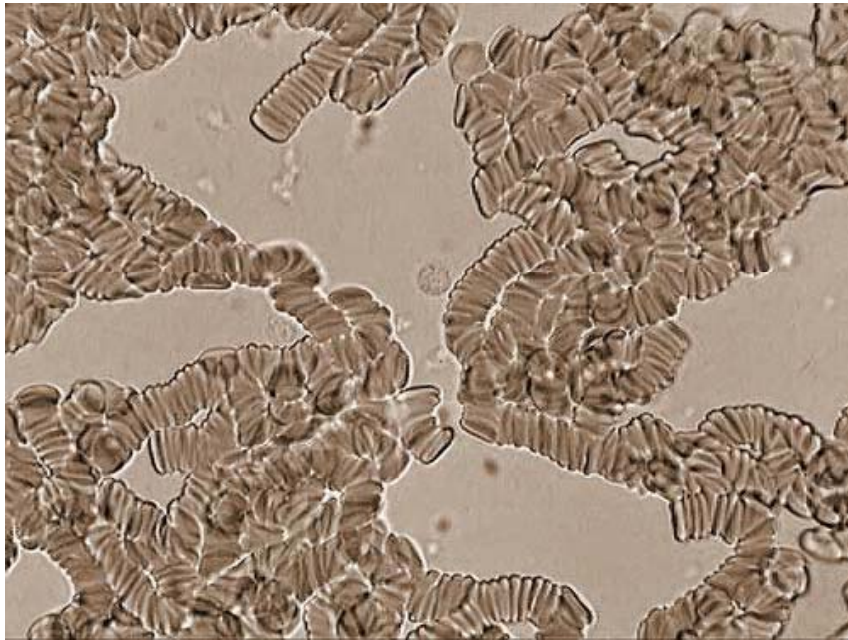
Using Mediclights Red-RX

- Portable non-invasive blood irradiation device using the LLLT method.
- Delivers LLL into the vascular rich capillary bed in the nasal cavity for 25 minutes.
- Non-invasive and requires no special training.

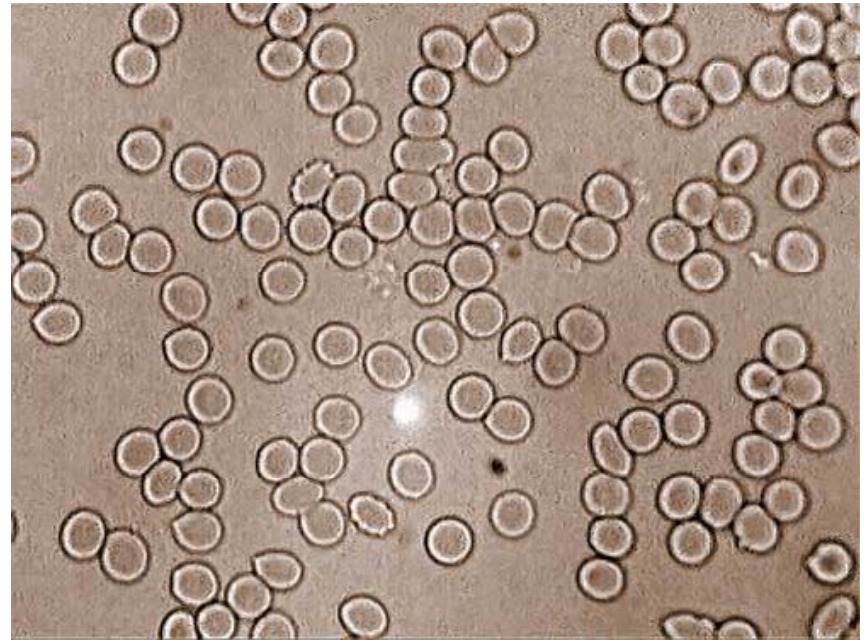


Visual evidence using Mediclight

Before treatment



After 25 minute treatment



Why nasal cavity

- Beneath the thin walls is a rich vascular capillary bed for rapid passage of fluids.
- Non-invasive.
- Highly receptive to any biostimulation.
- Blood flow is higher per unit of tissue than in the brain, liver or muscle.

Empirical test results for Mediclight

- Test period: November 2006 to September 2009.
- Patient data: 384 patients, randomised with different health conditions.
- Success rate for disaggregating aggregated RBC was 91 percent, with 7 percent unchanged.
- No side effect was observed.

Wavelength is Key

For nasal cavity illumination:

- Around 633 nm, not whether it is coherent (as in laser), combined with the right energy dosage and time phase.
- Incoherent red LED is expected to perform the same way as low level laser.

Conclusion

- TCM with regards to Qi and Blood is to ensure that oxygen in the blood is circulated unimpeded.
- With correct translation, Qi is not a metaphysical phenomenon.
- TCM holistic approach is complementary to modern medicine.
- Existing TCM modalities lack credible evidence.
- Key is in disaggregation of RBC.
- Mediclights method has scientific basis and evidence.

Link for full paper

www.mediclights.com/qi-blood-circulation-light.pdf