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# **Book of Abstracts**

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# main lecture

# Biomarkers Of Aging And Physical Activity

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Beside of wrinkles the problem of age is to be in need of help and even care because of weakness and disease. This is a consequence of the progression of 8 biomarkers of the biological age, which can be divided in 3 groups:

- 1. Physical activity: as measured by daily energy expenditure
- 2. The capacity of energy metabolism: maximal aerobic capacity, VO2max, which is endurance.
- 3. The muscle mass: maximal strength
- 4. The bodyfat as a % of bodyweight
- 5. The bone density
- 6. Insulinsensitivity
- 7. The relation of LDL and HDL-cholesterol
- 8. Blood pressure

Between this 3 groups there is a hierarchy of influence: the physical activity (especially in form of physical training of endurance and strength) is the most important biomarker because it strongly influences positively every single biomarker of the other two groups. But non of the biomarkers of the groups 2 and 3 can influence positively the pysical activity. The second group, VO<sub>2</sub>max and maximal strength, is determined by physical activity and strongly influences group 3, which contents the well known risk factors for the modern degenerative diseases of the vascular system, bones and joints and several types of cancer. But non of the markers of group 3, even if treated by medication or nutrition, can influence group 2. Also the daily life is much more impaired by a lack of endurance and strength then by a higher bloodpressure or cholesterol, which can be treated by medication. Regular physical activity the whole year which inludes moderat physical training until the end of life seems to be one of the most effectiv means to slow down the process of aging, to keep young the vascular system and the metabolism, to preserve endurance and strength and to maintaine an active lifestile.

# Stem Cells In The Human Amniotic Fluid

# Hengstschläger M

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It is the hope of patients and investigators that in the future the characterization and isolation of human stem cells will allow the establishment of new therapeutic concepts for a wide variety of diseases. The fact that probably the most potent stem cells can be derived from the inner cell mass during embryonic development raises a lot of ethical issues. Accordingly, many investigations have initiated a search for different human sources for cells that harbor the potential to differentiate into specific lineages. Recently, we found a new and very promising source for human stem cells. Human amniotic fluid contains different stem cells, such as for example Oct-4 and Rex-1 positive cells, neural stem cells or nephrogenic stem cells. We have established different protocols to isolate/enrich different stem cells out of human amniotic fluid and to differentiate these cells into different lineages. As set of different projects in our laboratory investigates the potential of human amniotic fluid cells for neurogenic, osteogenic, chondrogenic, myogenic, adipogenic and nephrogenic cell differentiation.

# Health And Happiness After Menopause: Medical And Ethical Aspects

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In developed countries, the ten leading risk factors for disease are tobacco, blood pressure, alcohol, cholesterol, overweight, shortage of fruit and cereals, physical inactivity, drugs, unprotected sex and iron deficiency; we need to concentrate on these major risks if we are to improve healthy life expectancy by about ten years, and total life expectancy by even more (Lopez, A, WHO 2002). Is aging a disease? "Certainly not, it is a normal part of the life cycle" (Kirkwood, TB, 2003). Aging theories refer to free radicals, metabolic error catastrophe, DNA damage or glycosilation of cross linkage, while the deterministic mechanisms for mortality are finite cell division, immune dysfunction or neuroendocrine dysregulation. The fact that genes explain only 25 % of individual variability in aging means that 75 % must be accounted for by other factors: lifestyle variables (nutrition, exercise) and powerful effects of environment (effects on older age). In more developed regions, the proportion of older people already exceeds that of children; by 2050, it will double. Taking into account the five chronic conditions of aging such as hypertension, diabetes, arthritis, heart disease or cancer, women as of 65 years are involved 80 %; with disability or limiting illness, it is 31 %. The goal of preventive medicine is an increase of the healthy life threshold with resultant full vigour and optimal quality of life; this would level off our current experience of linear aging. Besides classical medicine, hormones serve as a goal to achieve bone health, psychological well-being, a reduction in cardiovascular risk, improvement of cognition and the younger body image. The aging process can be affected by running through the stages of assimilation (maintained fitness, cosmetics, HRT), accommodation (changed goals and aspirations) and immunizing (reflect on past achievements). Practising a good medicine takes into account all determinants of such active aging with a focus on quality of life and the right to pursuit of happiness.

# Crisis Aging – A Learning Chance? Crisis Management – A Lucky Coincidence Of Healthy Aging

# Schuchardt E

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**Crises** in East and West are interpreted in a different way: In the West rather as a deep threat. In the Far East rather as a challenging new chance. Both perspectives are true and correspond to the complementary of human being; important for life, however, is our attitude towards it, it is a lucky coincidence in healthy aging and therefore also an issue of the preventive medicine. Well known to everybody are the **current life crises**, expectable at crucial stations of our life stories in our everyday life, not familiar those SUDDEN LIFE CRISES, not expectable at breaking points of our life. Nevertheless it is a fact that despite aging is expectable – meno pause and andro pause – it nevertheless happens 'suddenly and unexpected', destroys well organised life, also known as the 'pension shock'. This can be relieved, changed and preventively recognised as a **chance**. In all cultures there are learning processes – conscious and unconscious learning processes – to work through those crises. Their different stages can be of profit – if there are gone through as a learning process. That means to face the crisis, to work through the **learning process of crisis management** in 8 spiral phases ( - compiled out of 2000 life stories worldwide of a century -)

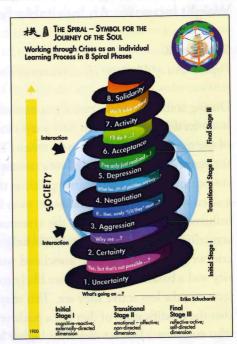


Fig.: Spiral – Symbol of the journey of the soul. Learning process of crisis management in 8 spiral phases

can cause happiness. Such a crisis management is teachable and learnable, can be instituted and professionalized, it is issue and challenge of preventive medicine. A final remark: In the context of the **vienna history of science,** in the year 2005 as the "100th anniversary of Viktor E. Frankl", and in the year 2006 as the "150th anniversary of Siegmund Feud", we can continue from there future opening ideas: the representative of the first Vienna School, Siegmund Freud, would have demanded working through the unconscious mechanism of resistance against aging from his point of 'Depth psychology'; Viktor E. Frankl, however, according to the Third Vienna School, the 'High psychology', would appeal to the logos 'called for meaning'.

### Literature:

- Schuchardt, E.: Warum gerade ich ...? Leben lernen in Krisen Fazit aus Lebensgeschichten eines Jahrhunderts. Göttingen, Vandenhoeck & Ruprecht, 12., überarb. und erw. Auflage, 2006.
- 2. Schuchardt, E.: Why me? Learning to Live in Crises. The Result of a Study of Life Stories covering a Century. World Council of Churches, WCC, Geneva 2006.
- 3. Schuchardt, E.: Krisen-Management und Entegration. Doppel-Band mit DVD. Bielefeld, 8. überarb. und erw. Auflage, 2003.

# Liposuction And Lipofilling As An Aesthetic Surgery In Outpatient Department

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The liposuction is one of the most common cosmetic procedures. Indication can be aesthetic (Body sculpturing) or curative (lipomas, Madelung disease, lipedema, gynecomastia). The safety and efficacy of liposuction and lipofilling have been proven in several studies. Both procedures may be performed in clinics, in outpatient departments and in the physician office. The liposuction is preferably performed in tumescence local anaesthesia and as an outpatient procedure. The incidence of complications is very low (~3,38%) and the results are long lasting. Serious adverse events with deaths (pulmonary embolism, severe infection) occur in 0,01%. Major risk factors for complications are insufficient hygiene standards, megavolume aspiration, large volumes of tumescent solution, multiple cosmetic procedures in one setting and intravenous sedatives and general anaesthesia in addition to the tumescent local anaesthesia. Office based tumescent liposuction has lower rates of complications than hospital based treatment.

# Acupuncture In The Mouth And The Peri-Oral Area

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In the mouth, a system of very effective acupuncturepoints is to be found in the mucous membranes. These points act as reflex points in modern pain therapy. Mucosa points, in a state of irritation, have a high degree of sensitivity and therapy of this points proves highly effective. From the retromolar area in particular, immediate muscle relaxation of the cervical muscles can be achieved. Craniomandibular disorders in all ages refer to a complex set of conditions, manifested by pain in the area of the jaw and associated muscles and limitations in the ability to make the normal movements of speech, facial expression, eating, chewing and swallowing, impaired opening of the mouth, joint clicking, headaches, sinusitis, chronic neck pain, reduced cervical spine mobility and trigeminus neuralgia. We performed a trial comprising more than 80 patients, from 22 – 71 a, with pain, headaches, neuralgia and craniomandibular disorders. The study was to assess the immediate effects of microsystem acupuncture in patient with oromyofacial pain in children and adults. Diagnostic methods were muscle palpation, mobility of cervical spine, computer