

Reader on the traditional teaching of  
midwifery and the art of childbirth

# LUCINA

## DIGEST

reading  
sample

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### Embryo

The focus is on the first twelve weeks of unborn life: preconditions for the embryonic implantation, the development of the embryo and of the placenta.

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### Fetus

The emphasis is on the fetal development, its behavior and treatment for a healthy fetus until gestation week 36.

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### Fruchtwalze

A central topic is the supporting preparation, to help the unborn with the proper passing through the mother's "hard" and "soft" birth canals.

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### Delivery

Subject of description are the methods for labor conduction and its influences on the course of delivery as well as the sensible monitoring of the child's vitality.

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**“Peace and silence,  
time and patience,  
respect for nature and  
the woman in childbirth,  
and the art of waiting,  
when Mother Nature rules.”**

Adam Elias von Siebold, the founder and editor of the specialized journal  
“Lucina. A magazine for the perfection of the art of childbirth”,  
published for the first time in 1802



## Dear readers,

the need for a discussion about quality in practical obstetrics prompted me to republish LUCINA as a specialized magazine. LUCINA used to exist already from 1802 to 1811, at that time under the title “Lucina. A magazine for the perfection of the art of childbirth”. The journal used to be published by the German gynecologist and university teacher Adam Elias von Siebold (1775 – 1828). As a professor of medicine and obstetrics, Siebold has intensively advanced medical obstetric training by teaching doctors and midwives in practice at the birthing bed. This was made possible by Siebold who founded the birth center in Würzburg, which was new for its time, in 1805 and the obstetrics university clinic in Berlin in 1817. Today, LUCINA is consciously following the tradition of Siebold, who wanted to pass on and maintain tried-and-tested obstetric knowledge with his writings and promote the professional skills of midwives and doctors. LUCINA would like to encourage its readers to set professional priorities. Regardless of fashion and with reference to the luminaries of its time, Lucina passes on that secure and reliable knowledge that appears again and again from generation to generation as obstetric rules and is now confirmed by the latest research results. In addition, it is long overdue to critically review and publish

the diverse aspects of gynecology and obstetrics in terms of maintaining women's and family health, and to do so with the firm belief that it is the right time today for medical staff to acquire and extend stable knowledge, methodical, structured work and competent communication should be the absolute goal. With step-by-step explanations, using practical examples and meaningful images, the processes of clinical examination methods are explained for taking a closer look and learning. LUCINA not only appeals to midwives, obstetricians and gynecologists, but to all those who are committed to women's, children's and family health, because it is important to recognize dangerous situations as such at an early stage, to classify them with the help of the respective specialists' examination, and to communicate to be managed taking into account the correct processes. All the more so because pregnant women in particular, no matter how individual their perception may be, must be able to trust the specialists who look after them. Now I wish you a lot of reading pleasure!

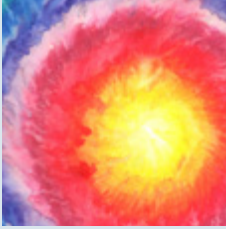
Sincerely,

A handwritten signature in black ink that reads "Barbara Kosfeld". The signature is fluid and cursive.

*Barbara Kosfeld, Editor*

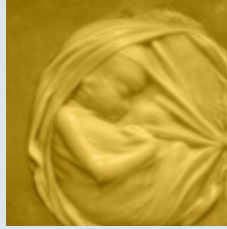
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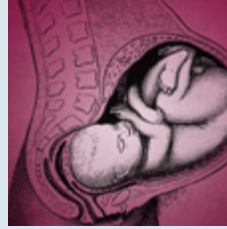
## Embryo

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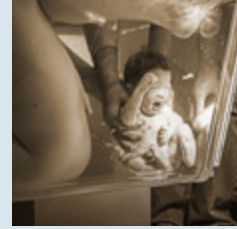
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# Fruchtwalze

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## The fetus assuming a cylindrical shape

*In order to assess the possibility of a spontaneous birth, there are three factors playing a major role upon each birth to be considered first of all: pelvis, fetus and contractions. So that the child overcomes well the given spatial conditions (pelvis), the proportion of the fetal parts to each other is decisive for the specific positioning of the presenting head (fetus) and the shape of its flexed posture and thereby the best indicator to assess whether the forthcoming birth can develop as a straightforward labour activity or not.*

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BY UTA BELAU



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## Prenatal period

All fetal development steps are also a preparation for its birth. They are accompanied and activated by various factors favouring each other, an interplay between maternal and fetal system. Certain subjective and objective signs give notice that the onset of labour is drawing near for the pregnant woman. This time span between the appearance of such signs and the actual onset of labour is referred to as prenatal period. It is entered into, in case of a healthy course of pregnancy, at the end of the third trimester, so it begins in the 36th week and usually extends over a period of four weeks. The lowering of the abdomen with more or less painful practicing contractions is the most known symptom of the beginning of this last stage of pregnancy. It comes to a descent of fundus uteri from the costal arch level to 2 to 3 fingerbreadths underneath it. This change in the position and increased uterine tonus affects the fetal behavior. The position of the fetus becomes fixed and changes in position only rarely occur spontaneously thereafter.

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## Fetal positions in the course of pregnancy

In the first five months, the fetus is so small in proportion to the uterine cavity that it can unhindered take every position. This situation changes in the further course of pregnancy. In the middle of pregnancy, the fetus is already so big that its position must adapt itself to the form of the uterus. Both uterus and fetus grow predominantly lengthwise. The uterus becomes a muscular sac which is longer than wide and more spacious in its fundus than in the area of the lower uterine segments. Should the form of the uterus be compared to the shape of the fetus, then the cephalic presentation is the natural position of the fetus due to the form fitting. Although

the walls of the uterus only loosely enclose their contents, they have the ability, through muscular contractions and support from the abdominal walls, to maintain the natural longitudinal shape of the uterus against the deforming influences of the fetus.

So, as long as the growing fetus is in a longitudinal position, it usually fits into the oblong-shaped uterine cavity without constraint. On the other hand, if it is positioned transversely or obliquely due to weak abdominal wall support, incorrect placenta seating, uterine or child malformations, maternal pelvic malformations, then the walls of the uterus are loaded and overstretched by the rump and head end of the fetus.

This therewith connected strain of the body walls leads, with the help of the abdominal walls, to reflexive muscle contractions which put pressure on the fetal rump and head end and seek to modulate it in a longitudinal position. If the abdominal walls are weakened, then the tonus of the uterine muscles is insufficient, as may be the case for instance upon multiples or much amniotic fluid.

If there are other inhibiting factors present, the fetus can occupy false postures and therewith connected malpositions. In the case of healthy pregnancies, this affects mostly multiparae and grand multiparae after previous inadequate birth management and postpartum care. Without appropriate abdominal wall support, positional anomalies often occur, which cause irregular fetal postures.

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## The fetal flexed posture

A flexed posture is the intrauterine fetal resting posture. It is there as early as in the embryonal development phase and the body posture is rounded even in the first half of pregnancy, when





36 weeks

40 weeks

Position of the fundus of uterus  
at the end of 9th and 10th month  
of pregnancy

space would be enough for a stretched posture. The condition of the fetal bones and joints as well as the nervous conduction through the developing nerves to the organs and tissues of the organism and the formation of muscles cause this natural posture. Sensory stimulations of peripheral nerve fibres through the uterine wall and through extrauterine touches of the child lead to calming of its central and vegetative nervous system. Vegetative nerve fibres are detectable as early as from day 42 to 44 after the ovum fertilization and their respective network building continues about 14 days. The nervous development takes place in stages in which sympathetic and parasympathetic systems have different maturation speeds and times. The intrauterine maturation of fetal autonomic regulation is influenced by the environment surrounding the fetus. Acute or prolonged stress stimuli alter the ability of autonomous fetal regulation.

If the fetus moves and stretches out its extremities thereby, then it always returns again to the flexed posture thereafter. If practicing contractions act on this bent posture, the bent posture will be strengthened. The resulting increasing restriction of movement affects the fetal nervous system, its self-regulation abilities are improved by restricting the movement of its limbs and stressful situations, such as those that can occur during birth, then put less strain on the child.

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### **The fetal skeletal system**

The fetal spine is splinted by the practicing contractions in its three bends, so that as a result and in preparation for the birth, a compact, circular-cylindrical body develops. It comes to a change in the posture of the head to the body in the head neck joint (atlanto occipital joint) and in the cervical spine which thus gives up its big movement and becomes now splinted by the fetal

shoulder girdle. The arms lie bent at the elbow joint, against the chest and splint the thoracic spine. Several loops of the umbilical cord usually lie at the child's abdominal side between upper and lower extremities.

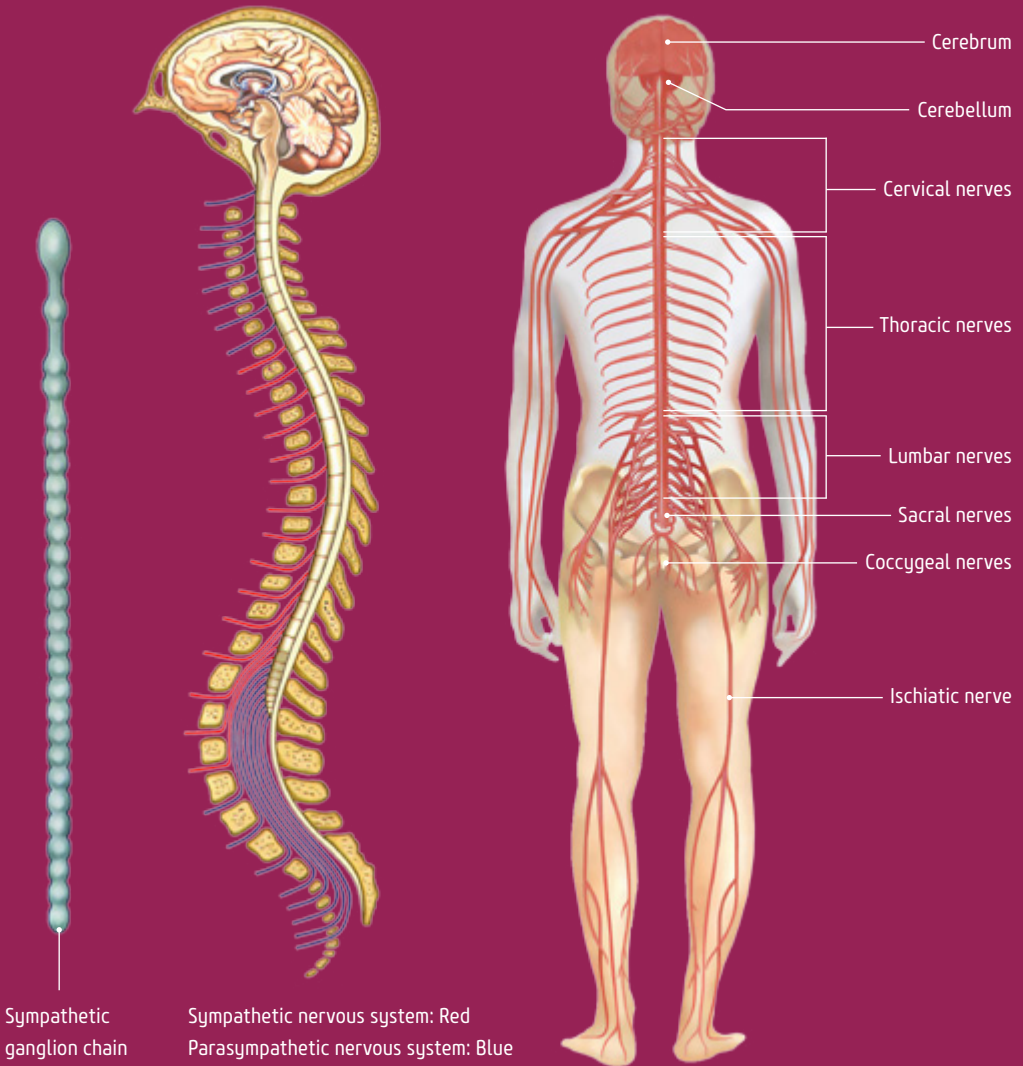
The practicing contractions acting on the pelvic girdle round the entire spine, bending the knees and pulling the legs towards the body, splinting the lumbar spine. The fetus is now fully fitted to the oval shape of the uterine cavity. This now reached child's posture is referred to as cylindrical shape of the fetus.

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### **Action of the practicing contractions**

When the expecting mother is a woman of average height (166 cm), her abdomen is maximally filled out by the uterus and the backwards and upwards displaced intestines in about 36th week of pregnancy. However, as the fetal maturation is still not completed, a further enlargement of the space upwards is no more possible, it comes to a dropping of the uterus and its diversion forwards. Thereby, also the straight abdominal muscles further divert from each other and the uterine body increasingly leans against the abdominal walls. The uterus is thereby at another angle towards the birth canal than before the uterine body dropping and thus also the child therein. If it is in a longitudinal position at that time, then the presenting part engaged towards the pelvis is led by the practicing contractions to the pelvic inlet region. A central significance in this process is assigned to the proper child's position, posture, place and fitting, to gently prepare the fetal body for the forthcoming birth stress in all muscle and joint areas.

*“The exactness with which the most appropriate, as it is the most protecting for mother and child, way of birth is*



## Autonomic Nervous System

The autonomic nervous system controls both the central and the peripheral nervous system. The peripheral nervous system refers to all nerves that run outside of the brain and spinal cord.

The structural and functional features of the autonomic nervous system subdivide it into two parts, in the sympathetic nervous system and parasympathetic nervous system. The action of both nervous systems is opposing (antagonistic), whereby they regulate themselves mutually. This regula-

tion leads to the essential balance of the organ functions. It comes to the excitation of the sympathetic nervous system through increased muscular effort, energy is required and stimulating functions become activated. Thus, for instance blood pressure, heartbeat and breathing rate increase. The human organism is under stress or in emergency situations upon higher sympathetic excitement. The antagonistic action of the parasympathetic nervous system is directed on conserving and recovering energy. Blood pressure, heartbeat and breathing rate are in a quiet frequency.

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Prof. Dr. Berthold Huppertz



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**Prof. Dr. rer. nat. Berthold Huppertz** teaches at the Medical University of Graz, Chair of Cellular Biology, Histology and Embryology and at the Gottfried Schatz Research Center. For more than two decades, Berthold Huppertz has been dealing with the human placenta, especially the trophoblast, and its changes in IUGR and preeclampsia. Together with the obstetrician Prof. Dr. med. Ekkehard Schleußner from the Friedrich Schiller University in Jena, the enthusiastic placentologist has fulfilled a long-cherished wish and published in 2018 the textbook "The Placenta. Fundamentals and Clinical Significance".

*Prof. Dr. rer. nat. Berthold Huppertz responds to questions via e-mail at: [berthold.huppertz@medunigraz.at](mailto:berthold.huppertz@medunigraz.at)*

**Barbara Kosfeld, MSc, MBA** is a qualified linguist, midwife, lecturer and expert. She received the "Vision Entrepreneurship Prize" from the Aachen region for founding the first birthing center in Aachen (focusing on multiple births and births from breech presentations). Barbara Kosfeld's focus is on preserving the 'old' midwifery knowledge she has prepared for today's obstetric practice. She founded the "Traditional Teaching of Midwifery and Childbirth Art" for the training and networking of midwives in Europe. *Barbara Kosfeld answers questions by e-mail: [seminare@the.de](mailto:seminare@the.de)*

**Uta Belau, MSc** is a midwife, lecturer and research associate. She got to know the "Traditional Teaching of Midwifery and Childbirth" in 2004 as part of a further training course. She dedicated her master's thesis

to "Predicting the course of labor". In addition to organizing further training and specialist meetings for midwives in Europe on the "Traditional Teaching of Midwifery and Childbirth", Uta Belau focuses on researching measures to maintain women's health.

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**Karin Bruns** is a freelance journalist and historian. After her graduation in Historical, Political and Linguistic Sciences from the University of Cologne and completing a traineeship at the Funke Mediengruppe/Journalistenschule Ruhr, she has gathered many years of experience as a permanent editor and a copywriter for daily newspapers, customer magazines, free magazines, the broadcast "Planet Wissen" (WDR - West German Broadcasting Corporation Cologne) as well as in the spheres of public relations and urban marketing.

*Karin Bruns answers questions by e-mail: [redaktion@lucina-magazin.info](mailto:redaktion@lucina-magazin.info)*

**Krassimira Teneva** is a Bulgarian who graduated from the University of Economics in Varna/Bulgaria, majoring in International Economic Relations, with intensive study of both German and English. As a freelance translator for more than 20 years now, she enjoys every translation job assigned to her as the various subjects raise her general knowledge and make her use meticulous research skills to find the perfect word for the context. Lucina is the next challenge taken up with intellectual curiosity and enthusiasm to dive into this interesting field of medicine.

# LUCINA DIGEST

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