

## **Signe ja Ane Gyllenbergin säätiö on vuodesta 1972 järjestänyt psykosomatiikkaa käsitteleviä symposiumeja. Parhaat kansainväliset tutkijat ja puhujat on kutsuttu valottamaan ajankohtaisia kysymyksiä.**

Sikiökauden ja lapsuuden olosuhteet vaikuttavat ihmisen terveyteen ja hyvinvointiin koko elämän ajan. Vaikka tämä elämänsäkaarinäkökulma on hyväksytty jo pitkään, alan tutkimus on saanut uutta vauhtia, kun näitten yhteyksien mekanismeja on alettu saada selville. Tieto mekanismeista on tärkeää, koska niiden perusteella voidaan suunnitella sairauksien ehkäisyä. Samalla on opittu ymmärtämään paremmin sikiökauden ja lapsuuden olosuhteiden laajaa kirjjoa: enneaikainen syntymä, raskausdiabetes, äidin stressi tai masennus tai väkivallan kohteeksi joutuminen voivat kukin vaikuttaa sikiöön ja lapseen niille ominaisella tavalla. Oman ryhmänsä muodostavat adoptoidut, sijaissynnytyksen tai hedelmällisyyshoitojen kautta perheeseen tulleet lapset, jotka ovat kokeneet erilaisia asioita kuin biologiset spontaanista raskaudesta syntyneet lapset. Osan välitysmekanismeista uskotaan olevan epigeneettisiä: varhainen altiste saa aikaan geenien toiminnan muutoksen tavalla, joka voi säilyä koko elämän. Osa näistä muutoksista voi olla hyödyllisiä sopeutumia vallitseviin olosuhteisiin, mutta osa voi olla terveyden kannalta haitallisia.

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## **Signe och Ane Gyllenbergs stiftelse har sedan 1972 ordnat internationella symposier om relationen mellan kropp och själ. Bästa möjliga forskare och talare har inbjudits för att belysa den aspekt man valt att behandla.**

Levnadsförhållandena under fosterstadiet och barndomen påverkar människans hälsa och välmående genom hela livet. Trots att man redan länge varit medveten om detta, har forskningen inom detta område fått ny fart när man klarlagt hur mekanismerna mellan dessa förhållanden fungerar. Kunskapen om mekanismerna är viktig, för med hjälp av den kan åtgärder planeras för att förhindra sjukdomars uppkomst. Samtidigt har man lärt sig att bättre förstå diversiteten av olika slag av förhållanden under fosterstadiet och barndomen: för tidig födsel, graviditetsdiabetes, moderns stress eller depression eller utsatthet för en våldshandling är alla faktorer som var för sig kan påverka fostret och barnet på ett specifikt sätt. Barn som fötts genom adoption, med hjälp av surrogatmamma eller via andra fertilitetsbehandlingar bildar en egen grupp för sig. Deras livsupplevelser är annorlunda än de barnens som fötts genom spontan graviditet. En del av förmedlingsmekanismerna antas vara epigenetiska: tidig exponering gör att genernas funktioner modifieras på ett sätt som varar livet ut. En del av modifieringarna kan vara nyttiga med tanke på anpassningen till rådande omständigheter, men en del kan också vara skadliga för hälsan.

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*Professor Eric A. P. Steegers, Department of Obstetrics and Gynecology, Erasmus MC, University Medical Center, Rotterdam, the Netherlands*

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## **Embryonic health and preconception care**

The early weeks of pregnancy are most vulnerable in human and several pregnancy complications originate during this period, such as preeclampsia, congenital malformations and low birth weight. New imaging techniques during the first trimester of pregnancy reveal associations between maternal age, vitamin supplement use, dietary patterns, smoking and early embryonic growth. Moreover, being small as an embryo has been associated both with an increased risk of being small for gestational age and with an increased cardiovascular risk profile in childhood. Risk factors such as poor nutrition, smoking, and alcohol abuse should be handled already before pregnancy; pre-conceptional care. Empowering women but also their partner adopting a life course approach already from the time before conception onwards covering the embryonic period may have important implications not only for fertility and pregnancy complications, but also for future prevention of non-communicable diseases.

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*Professor Katri Räikkönen, PhD Academy professor and Professor of developmental, personality and clinical psychology at the Department of Psychology and Logopedics, Faculty of Medicine, University of Helsinki, Finland*

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## **Maternal stress and pregnancy outcome**

Academy Professor Katri Räikkönen is an expert on developmental programming – the science studying how conditions during fetal life have an effect on the child's future development, mental well-being and health. Professor Räikkönen's talk will focus on the effects of maternal psychosocial stress on the well-being of the fetus and on pregnancy outcome. Professor Räikkönen has also studied the biological mechanisms that underlie the adverse effects of maternal psychosocial stress. One of the key mechanisms is excess production of stress hormone cortisol, which is necessary for fetal development but in large amounts can have harmful effects on the development of many organs including the brain. In normal pregnancies the placenta protects the fetus from excess maternal cortisol. This system is very fine-tuned and can be disrupted by maternal pregnancy disorders or by a range of chemical compounds including glycyrrhizine, a key ingredient of liquorice. Professor Räikkönen will focus on the effects of maternal stress and psychological well-being on pregnancy outcome and biological mechanisms that may underlie this association.

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*Professor Saroj Saigal of Pediatrics leader for Neonatal Follow-up Program for high-risk infants,  
Professor Emerita at McMaster University, Ontario, Canada*

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## **Voices of adults born preterm**

Professor Saroj Saigal from McMaster University, Canada, is one of the pioneers in follow-up studies of small preterm infants. In the 1970's, when there still was no consensus on active neonatal intensive care of small preterm infants, professor Saigal established a follow-up programme of preterm infants with a birth weight less than 1000 g. This study has produced a wealth of information on the long term health and developmental challenges of children and adults born extremely preterm. However, in Dr Saigal's words, "We felt that something important was missing – and that was the voices of our adult preemies about how they felt about their lives, aspirations, challenges and achievements." In other words, we have not considered asking the former preemies, "how has prematurity affected your life?" Such information can only be obtained directly from the ex-preemies, in open-ended conversations, or from their personal narrative writings. In her talk, Professor Saigal will summarize some of the themes from the stories written by former preemies about their lives from the book "Premie Voices." These poignant stories are written by individuals with and without disabilities, and provide a candid account of their lives.

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*Docent Viveca Söderström-Anttila Phd, fertility specialist Felicitas, Mehiläinen, Helsinki, Finland*

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## **Outcomes of surrogacy**

Surrogacy implies that a woman becomes pregnant and gives birth to a child with the intention of giving away this child to another person. Gestational or in vitro fertilization (IVF) surrogacy is defined as an arrangement in which an embryo from the intended parents is transferred to the surrogate's uterus. The main indication for surrogacy treatment is congenital or acquired absence of a functioning uterus. Research available shows that most surrogacy arrangements are successfully implemented, most surrogate mothers are well-motivated and they do not experience any major problems to hand over the child to the intended parents. The perinatal outcome of the children is comparable to standard IVF, and there is no evidence of psychological harm to the children born as a result of surrogacy. During the last years prohibition of surrogacy treatment in the Nordic countries has led to critical discussion whether surrogacy should be allowed in the future. It is an ethical dilemma that couples have to go abroad to commercial cross-country surrogacy to receive help for their infertility problem.

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*Docent Eero Kajantie specialist in paediatrics, clinical genetics and public health at National Institute for Health and Welfare, Helsinki and Oulu, Finland*

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## **Preterm birth – Causes and significance for public health**

Dr Kajantie from National Institute for Health and Welfare, Finland, is an expert in the long-term outcome of preterm birth. In the symposium he will talk about preterm birth as a public health paradox. Improved prenatal and neonatal care has resulted in substantial improvements in the prognosis of preterm infants in particular in high-resource settings and is one of the success stories of modern medicine. Yet, across low-, middle- and high-income settings, preterm birth remains one of the greatest public health challenges. World-wide, each year approximately 15 million babies, one baby in nine, are born preterm. Of them, approximately one million die; one in three babies who die within four weeks after birth are preterm. In high- and middle-income countries preterm birth is the most common cause of child mortality. Dr Kajantie will talk about measures necessary to continue to improve the prognosis of preterm birth.