Kliiniline küsimus nr 8

Kas kõikide enneaegsete sünnituste korral tuleb sünnitusviisi valikul arvestada ema terviseseisundi ning vastsündinu ravitulemi parandamiseks järgmisi tegureid võrreldes mittearvestamisega:
- mitmikrasedus (sh sõltuvalt esimese loote seisust)
- vaginaalne sünnitus võrreldes keisrilõige sõltuvalt gestatsioonivanusest (22-23-24, 25-26, 27-28, 29-31)
- looteseis: vaagnaotsseis võrreldes peaseis

Kriitilised tulemusnäitajad: ema tervisetulem, lapse peamised tulemusnäitajad

Süstemaatilised ülevaated

Antud teema kohta puuduvad head süstemaatilised ülevaated. Cochrane ülevaade hõlmas vaid 116 naist, seega põhjapanevaid järeldusi selle alusel teha ei saa. Süstemaatiline ülevaade sünnitusviisist tuharseisu korral hõlmas küll 3557 uuritavat, kuid kuna antud teema kohta puuduvad randomiseeritud kontrollitud uuringud, siis ülevaade tehti mitte-randomiseeritud uuringute põhjal.
Ka RCOGi poolt välja antud Scientific Impact Paper sünnitusviisist eluvõimelisuse piiril hõlmas endas vaid madala kvaliteediga uuringuid.

Sünnitusviisi valik mitmikraseduse korral
Antud teemat käsitles RCOGi poolt välja antud *Scientific Impact Paper*, kus populatsioonipõhise uuringu põhjal leiti, et muul juhul komplitseerumata kaksikraseduse korral, kus I loode sünnib vaginaalselt ja II lootele on tema tuharseisu tõttu teostatud keisrilõige, oli II loote suremus väiksem kui I oma (2.1 versus 9.0%, adjusted OR 0.40, 95% CI 0.17, 0.95). Samas oli väga enneaegsete (<28rn) vastsundinute osakaal väga väike (1.2–1.4% uuritavatest). (3)

ACOG-i poolt välja antud praktiline juhend mitmikute sünnitusviisi kohta leidis, et kaksikrasedus üksi ei ole näidustus keisrilõikeks ning otsuse tegemisel tuleb lähtuda amniaalsusest/koriaalsusest, loodete seisust, raseduse suurusest ning klinitsisti pädevusest. Nende poolt välja antud ekspertarvamus on, et raseduse suuruses 32 +0 ja suurem tuleks I loote peaseisu korral eelistada vagnaalset sünnitust. (4)

Sünnitusviisi valik sõltuvalt gestatsioonivanusest
Cochrane ülevaates, mis hõlmas gestatsiooniaega 26-33 nädalat, leiti, et erakorralise keisrilõike ja vaginaalse sünnituse korral ei olnud erinevust sünnitrauma osas lootele (RR 0.56, 95% CI 0.05 to 5.62; üks uuring, 38 naist), ega ka sünniasfüksia osas (RR 1.63, 95% CI 0.84 to 3.14;1 uuring, 12 naist). Samuti ei leitud erinevust perinataalse suremuse osas ning puudus info vastsündinu hospitaliseerimise kohta eriraviks. Sekundaarsetest näitajatest ei olnud ka erinevust hüpoksilise isheemilise entsefalopaatia, rinnaga toitmise, sünniasfüksia markerite (nt. nabaväädi pH) osas. Ka ei olnud erinevust neonataalsete krampide, madala 5' Apgari, RDSi osas. Ei olnud erinevust ka selliste näitajate osas nagu nabaväädi prolaps, mehaanilise ventilatsiooni vajadus ja selle päevade arv, lisahapniku vajadus (päevades) ning neonataalne kollatõbi. Emade tervisetulemi seisukohast puudus info emade hospitaliseerimisest intensiivraviosakonda, kuid planeeritud erkaorralise keisrilõike grupis oli tunduvalt rohkem sünnijärgseid komplikatsioone (haava dehisents, süvaveenitromboos, endotoksiline shokk, pueperaalne sepsis). Sünnitusjärgse verejooksu osas erinevust ei leitud.

Puudus info emade rahulolu kohta. (1)

RCOGi poolt väljanatud ülevaates hõlmatud retrospektiivse uuringu põhjal leiti, et 22-25 rasedusnädalal keisrilõike teel sündinud laste hulgas oli väiksem neonataalse suremuse osakaal, kuid seda enamasti vaid esimesel elupäeval. Uuring vastsündinutest alla 1500g leidis, et keisrilõige ei olnud seotud paremate tervisetulemitega välja arvatud alagrupis, kus oli tegu koorioamnioniidiga.
Antud ülevaates hõlmatud uuringute põhjal kahjuks ei saa taas teha põhjapanevaid järeldusi, kuid hetkel olemasoleva info põhjal tuleks sügava enneagsuse korral sünnitusviisi valik teha lähtuvalt obsteetrilistest ja emapoolsetest näidustustestest, mitte niivõrd lootepoolsetel põhjustel ning keisrilõiget ei tuleks rutiinselt soovitada. (3)

Sünnitusviisi valik tuharseisu korral
Cochrane ülevaateartikli põhjal puudusid selged tõendid peaseisust ja tuharseisust sünnituste võrdlemisel järgnevates punktides: perinataalne suremus, 5' Apgar alla 7, neonataalsed infektsioonid, intrakraniaalne patoloogia ja neonataalne kollatõbi. (1)
Tuharseisust sünnitust käsitlev ülevaateartikkel hõlmas endas gestatsiooniaega 25+0 kuni 36+6. Leiti, et neonataalne suremus on 37% väiksem (RR 0.63; 95% CI 0.48–0.81) keisrilõike korral võrreldes vaginaalse sünnitusega. Kahjuks antud uuringu põhjal ei ole võimalik teha mingeid järeldusi neonataalse haigestumuse kohta. Emade haigestumist käsitles antud ülevaates vaid üks uuring, mis leidis, et keisrilõike korral pikeneb emade haiglasviibimise period (keskmine 8.4 päeva versus keskmine 6.3 päeva). Pueperaalse sepsis osas erinevust ei leitud ning antud uuringus tõsiseid emade ravikomplikatsioone ei kirjeldatud. (2)

RCOGi ülevaates on välja toodud, et antud teema kohta tõenduspõhine materjal puudub ning otsus sünnitusviisi kohta tuleks teha individuaalselt ning koos lapse ema ja partneriga. (3)

Viited

Kokkuvõtte (abstract või kokkuvõtlikum info)	**Viide kirjandusallikale**
4 component RCTs (Viegas 1985; 35 Penn 1996; Zlatnik 1993; Wallace 1984) is included in this review. All included trials examined the impact of the mode of birth (immediate CS or vaginal birth) on neonatal outcomes in preterm and very low birth weight babies (gestational age across all studies ranged from 26 weeks to 33 weeks) with cephalic or breech presentation. Three studies included preterm babies with only breech presentation (Penn 1996; Zlatnik 1993; 44 Viegas 1985) and 1 study included only babies with cephalic presentation (Wallace 1984). Only 116 women were recruited to the four trials contributing to the analyses reported All four trials were stopped early, due to difficulties with recruitment. Therefore, any firm conclusions	1.Alfirevic Z, Milan SJ, Livio S Caesarean section versus vaginal delivery for preterm birth in singletons (Review) The Cochrane Library, 2013

regarding the relative merits of planned immediate caesarean section versus planned vaginal delivery should not be drawn from this review in order to guide current clinical practice. The need for more 'intention-to-treat' data from properly controlled trials is essential. **For the infant Primary outcomes** There were very little data relating to the three main (primary) outcomes considered in this review. There was no significant difference between planned immediate caesarean section and planned vaginal delivery with respect to birth injury to infant (risk ratio (RR) 0.56, 95% confidence interval (CI) 0.05 to 5.62; one trial, 38 women), or birth asphyxia (RR 1.63, 95% CI 0.84 to 3.14; one trial, 12 women). The only cases of birth trauma were a laceration of the buttock in a baby who was delivered electively by caesarean section (Viegas 1985) and mild bruising in another allocated to the expectant group and delivered vaginally (Penn 1996). **Secondary outcomes** The difference between the two groups with regard to perinatal deaths was not significant (RR 0.29, 95% CI 0.07 to 1.14; three trials, 89 women) and there were no data specifically relating to neonatal admission to special care and/or intensive care unit. There was no difference between the caesarean or vaginal delivery groups in hypoxic ischaemic encephalopathy (a condition of injury to the brain) (RR 4.00, 95% CI 0.20 to 82.01; one trial, 12 women), in attempts at breastfeeding (RR 1.40, 95% CI 0.11 to 17.45; one trial, 12 women) or in terms of markers of possible birth asphyxia, i.e. cord pH being below the normal range (RR 9.00, 95% CI 0.56 to 143.89; two trials, 33 women). There was also no significant difference between the two groups for abnormal follow-up in childhood (RR 0.65, 95% CI 0.19 to 2.22; one trial, 38 women) in neonatal fitting/ seizures (RR 0.22, 95% CI 0.01 to 4.32; three trials, 77 women), in low Apgar score at five minutes (RR 0.83, 95% CI 0.43 to 1.60; four trials, 115 women), respiratory distress syndrome (RR 0.55, 95% CI 0.27 to 1.10; three trials, 103 women) or delivery less than seven days after entry (average RR 0.95, 95% CI 0.73 to 1.24; two trials, 51 women)	

There were no data reported in the trials specifically relating to meconium .
Non prespecified secondary outcomes
We have also included a number of non-prespecified outcomes: cord prolapse; need for mechanical ventilation; ventilation (days); supplemental oxygen (days); neonatal jaundice - none of them showed important differences between the two groups.

For the mother
Primary outcomes
There were no data reported on maternal admission to intensive care. However, there were significantly more cases of major maternal postpartum complications (wound dehiscence, deep vein thrombosis, endotoxic shock and puerperal sepsis) in the group allocated to planned immediate caesarean section compared with the group randomised to vaginal delivery (RR 7.21, 95% CI 1.37 to 38.08; four trials, 116 women).
Secondary outcomes
The included studies did not report data on maternal satisfaction (postnatal). There was no significant difference between the two groups with regard to postpartum haemorrhage (excess blood loss from the birth canal after childbirth) (RR 3.69, 95% CI 0.16 to 83.27; four trials, 105 women).
Non prespecified secondary outcomes
A number of non-prespecified secondary outcomes were also considered in the analyses. There was a significant advantage for women in the vaginal delivery group with respect to maternal puerperal pyrexia (RR 2.98, 95% CI 1.18 to 7.53; three trials, 89 women) and other maternal infection (RR 2.63, 95% CI 1.02 to 6.78, three trials, 103 women), although only just significant, P = 0.05), but no significant differ- ences in wound infection, maternal stay more than
10 days or the need for blood transfusion.

Subgroup Analyses
There was no clear evidence for subgroup differences between breech and cephalic presentations for the following outcomes examined: perinatal death (test for subgroup differences P = 0.91, I2 = 0%); Apgar score less than seven at five minutes (test for subgroup differences P = 0.62, I2 = 0%); neonatal infection (test for subgroup differences P = 0.51, I2 = 0%);

intracranial pathology (test for subgroup differences P = 0.38, I2 = 0%); or neonatal jaundice (test for subgroup differences P = 0.91, I2 = 0%).	
We performed a systematic review and meta-analysis of non-randomized studies that assessed the association between mode of delivery and neonatal mortality in women with preterm breech presentation. Seven studies, involving a total of 3557 women, met the eligibility criteria and were included in this systematic review. This systematic review assessed the mode of delivery for women preterm (gestational age 25+0 and 36+6 weeks) delivering a fetus in a breech presentation. The absolute risk for neonatal mortality was 3.8% in the CS group and 11.5% in the VD group. The pooled RR was 0.63 (95% CI 0.48–0.81) for neonatal mortality after CS compared to VD. Neonatal mortality was chosen as main outcome for this review since this outcome is relevant and easy to measure, and therefore often reliably reported. Morbidity, although also important, is much more difficult to define. For neonatal morbidity, the included studies used different types of neonatal outcomes whereby it was impossible to pool these data and to draw valid conclusions. Besides, especially in preterm infants, short term morbidity is not always correlated to a long-term adverse outcome. The data on maternal morbidity had insufficient power to draw valid conclusions. This review demonstrates that neonatal mortality is signifi- cantly reduced by 37% (pooled RR 0.63; 95% CI 0.48–0.81) with a CS as compared to VD in preterm breech presentation at gestational age 25+0 till 36+6 weeks. Another problem of this review is that the included studies had different subgroups of gestational age, whereby we were unable to pool these data and conclude which subgroup of gestational age has the most benefit by delivering by CS. Obviously, in neonates born very preterm the baseline risk of neonatal mortality will be higher than in neonates born late preterm. Consequently, the relative benefit of a CS will be stronger in neonates born late preterm.	2. L.A. Bergenhenegouwen, L.J.E. Meertens, J. Schaaf, J.G. Nijhuis, B.W. Mol, M. Kok, H.C. Scheepers Vaginal delivery versus caesarean section in preterm breech delivery: a systematic review European Journal of Obstetrics & Gynecology and Reproductive Biology 172 (2014) 1–6

Maternal morbidity was only reported in the study of Wolf et al. The duration of hospital stay was significantly longer in the CS group (mean 8.4 days versus mean 6.3 days). The incidence of puerperal fever was not different (CS 9% versus VD 3%; RR 2.93; 95% CI 0.68–12.5). No major maternal complications were described in the studies.	
Tegemist RCOG poolt välja antud analüüsiga enneaegsest sünnitusest eluvõimelisuse piiril. When immediate delivery is required, for example due to massive antepartum haemorrhage or fulminating preeclampsia, then delivery by caesarean section may be the only option. When there is a choice regarding mode of delivery, caesarean section may intuitively appear less traumatic for the infant, but studies fail to show a significant advantage to the infant in unselected cases and an updated Cochrane review did not stratify preterm births according to their gestation. There are even less data about mode of delivery at the threshold of viability, and no RCTs have been conducted as of yet. A retrospective study in the United States of America (USA) showed that delivery of infants between 22–25 weeks of gestation by caesarean section had a reduced neonatal mortality rate, independent of any risk factors, but this was primarily on the day of birth. A study in Israel specifically investigating preterm infants < 1500 g, found that caesarean section was not associated with a beneficial effect on survival except in a sub–group who had chorioamnionitis. There are no data specifically addressing mode of delivery at the threshold of viability in non–cephalic fetal presentation. There are no data for gestations less than 26 weeks, but one of the trials included in the aforementioned Cochrane review specifically addressed planned caesarean section for preterm breech between 26 and 32 weeks of gestation; however recruitment rates were poor and no conclusions were able to be drawn. The evidence shows that routine caesarean section for the delivery of preterm breech presentation should not be advised and mode of delivery should be discussed on an individual basis with a woman and her partner.	3. Perinatal Management of Pregnant Women at the Threshold of Infant Viability (The Obstetric Perspective) Scientific Impact Paper No. 41 February 2014, RCOG

In the case of multiple pregnancies, a population study of otherwise uncomplicated pregnancies compared the outcome of second twins delivered by caesarean section due to breech presentation of the sibling, with those delivered vaginally. In births before 34 weeks of gestation, second born twins delivered by caesarean section had a lower risk of neonatal death than those delivered vaginally (2.1 versus 9.0%, adjusted OR 0.40, 95% CI 0.17, 0.95) but this study had only low numbers of extremely preterm infants (1.2–1.4% were < 28 weeks of gestation). The rate of classical caesarean section is inversely related to the gestation. In one cohort study where a classical incision was performed in 1% of all caesarean sections, 20% of incisions were classical at 24 weeks of gestation, < 5% at 30 weeks and < 1% from 34 weeks of gestation. The complications of classical caesarean section are increased risk of scar rupture and subfertility in the future and higher maternal morbidity (bleeding, paralytic ileus) hence women need to be counseled regarding these issues when classical caesarean section is anticipated. The present evidence suggests that the method of delivery in extreme prematurity should be based on obstetric or maternal indications rather than perceived outcome of the baby and caesarean delivery cannot be recommended routinely. Delivery of the fetus within the intact gestation sac "en caul" is well described as a technique to reduce the trauma during Caesarean delivery, although substantive evidence for this approach is lacking.	
Tegemist praktilise juhisega mitmikraseduse käsitlemisel, välja antud ACOG poolt. **In diamniotic twin pregnancies at 32 0/7 weeks of gestation or later with a presenting fetus that is vertex, regardless of the presentation of the second twin, vaginal delivery is a reasonable option and should be considered, provided that an obstetrician with experience in internal podalic version and vaginal breech delivery is available.** (The following recommendations and conclusions are based primarily on consensus and expert opinion (Level C))	**4. ACOG Practice Bulletin No. 144: Multifetal gestations: twin, triplet, and higher-order multifetal pregnancies.** American College of Obstetricians and Gynecologists; Society for Maternal-Fetal Medicine. Obstet Gynecol. 2014 May;123(5):1118-32. doi: 10.1097/01.AOG.0000446856.51061.3e.

The optimal route of delivery in women with twin gestations depends on the type of twins, fetal presentations, gestational age, and experience of the clinician performing the delivery. A twin gestation in and of itself is not an indication for cesarean delivery. Women with monoamniotic twin gestations should undergo cesarean delivery to avoid an umbilical cord complication of the nonpresenting twin at the time of the initial twin's delivery. Women with diamniotic twin gestations whose presenting fetus is in a vertex position are candidates for a vaginal birth. A recent randomized trial of women with uncomplicated diamniotic twin pregnancies between 32 0/7 weeks and 38 6/7 weeks of gestation with a vertex presenting fetus demonstrated that planned cesarean delivery did not significantly decrease the risk of fetal or neonatal death or serious neonatal morbidity, as compared with planned vaginal delivery (2.2% and 1.9%, respectively; OR [with planned cesarean delivery], 1.16; 95% CI, 0.77–1.74; P=.49). The optimal route of delivery for women with higher-order multifetal gestations remains unknown. Small observational studies have suggested that similar perinatal outcomes can be obtained for women (with uncomplicated triplet pregnancies and a presenting fetus that is vertex) who undergo planned trial of labor compared with those who undergo planned cesarean delivery. Thus, in the presence of obstetricians with experience in vaginal delivery of multiple gestations, a planned vaginal delivery of triplets can be considered	

Ravijuhendid

Kõik ravijuhendid on seisukohal, et puuduvad hea kvaliteediga uuringud, mille põhjal saaks tugevaid järeldusi teha. Soovitatakse individuaalset lähenemist ning otsuse tegemist koos vanematega neid eelnevalt kõigist riskidest ja kasudest informeerides. Peaseisus loote korral oleks soovitav vaginaalne sünnitus (5. Queensland Clinical Guideline, Preterm labour and birth).

Keisrilõiget ei soovitata üldjuhul teha raseduse suuruses alla 25+0 nädala. (5. Queensland Clinical Guideline: Perinatal care at the threshold of viability) Tuharseisu korra raseduse suuruses 26+0 kuni 36+6 kaaluda keisrilõike teostamist informeerides ema, et antud teema kohta puuduvad tõenduspõhised uuringud (8. NICE, Preterm labour and birth). RCOG tuharseisu käsitlev ravijuhis rutiinset keisrilõiget ei soovita (C), kuid alapunktis toob välja, et otsuste tegemine vajalik koos vanematega. (7) Enneagne keisrilõige võib olla tehniliselt raskem ning ei ole ka lapsele täiesti ohuti. Vajalikuks võib osutuda klassikaline keirilõige, mis korreleerub hilisemate terviseriskide tõusuga emale järgmise raseduse ajal (armi dehisents, emaka rebend, platsenta peetumine, ema surm). (6)

Ravijuhendite kokkuvõte	**Viide kirjandusallikale**
Tegemist väga hea kvaliteediga ravijuhendiga For the purposes of this guideline the threshold of viability is considered to be between 23 weeks and 0 days and 25 weeks and 6 days gestational age. • The optimal mode of birth for babies of very low gestational age is uncertain and controversial • There are very few randomised controlled trials— most studies are retrospective and are likely to be subject to selection bias and/or have other serious limitations • Preterm caesarean section (CS) is usually technically more difficult to perform and is not without risk to the baby as lower segment is usually not well formed • A classical incision may be required with risks to future pregnancies including scar dehiscence, uterine rupture, placental adherence and maternal death. o Discuss the implications of decision with the woman • Some studies suggest CS improves survival and/or morbidity of the extremely preterm neonate while others have not demonstrated benefit. • Similarly there are inconsistent results regarding CS for extremely preterm breech presentation with some studies reporting reduced morbidity and/or mortality and others reporting no difference. **Consensus Recommendation**	5. Queensland Clinical Guidelines. Perinatal care at the threshold of viability. Guideline No. MN 14.32-V1-R19. Queensland Health. 2014. Available from: http://www.health.qld.gov.au/qcg/

• There is insufficient evidence upon which to base firm recommendations regarding CS for fetal indications at extremely premature gestational ages • Consider individual circumstances including (but not limited to): o Potential for fetal and maternal risk and benefit o Family preferences and wishes o Individual clinical circumstances (e.g. fetal presentation) • Consensus recommendations of the working party regarding CS for fetal indications: o Not recommended at less than 24+0 weeks gestation o Not usually recommended between 24+0 and 24+6 weeks gestation o May be recommended from 25+0 weeks gestation depending on individual circumstances	
Tegemist keskmise kvaliteediga ravijuhendiga. • There is insufficient high quality evidence about whether mode of birth affects neonatal morbidity and outcomes. • Preterm CS is usually technically more difficult to perform and is not without risk to the baby as the lower segment is usually not well formed o A classical incision may be required with risks to future pregnancies including scar dehiscence, uterine rupture, placental adherence and maternal death o Discuss implications of decision with the woman o Early consultation with anaesthetic team required **Singleton vertex** • Recommend vaginal birth unless there are specific contraindications to vaginal birth or maternal conditions	6. Queensland Clinical Guidelines. Preterm labour and birth. Guideline No. MN14.6-V6.R19. Queensland Health. 2014. Available from: https://www.health.qld.gov.au/qcg/

necessitating CS **Breech presentation ≥ 26+0 weeks** • The evidence regarding optimal mode of birth for preterm breech is conflicting and unclear due to a lack of high quality studies • Base decisions on individual circumstances and maternal preferences • CS is not generally recommended where vaginal birth is imminent **≤ 25+6 weeks gestation (vertex or breech)** • CS for fetal indications alone not generally recommended at less than 25+0 weeks gestation	
Tegemist keskmise/hea kvaliteediga ravijuhendiga **Management of the preterm breech and twin breech** Routine caesarean section for the delivery of preterm breech presentation should not be advised. (C) The mode of delivery of the preterm breech presentation should be discussed on an individual basis with a woman and her partner. (Recommended best practice based on the clinical experience of the guideline development group.) Where there is head entrapment during a preterm breech delivery, lateral incisions of the cervix should be considered. (Recommended best practice based on the clinical experience of the guideline development group.) A retrospective cohort study found that very-low-birthweight breech or malpresenting neonates delivered by a primary caesarean section had significantly lower adjusted relative risks of death compared with those delivered vaginally. However, the authors emphasised that a causal relationship cannot be inferred. (Evidence level III) Although the majority of obstetricians use caesarean section for the uncomplicated preterm breech, only a minority believe that there is sufficient evidence to justify this policy. There is general acknowledgement that the numerous retrospective studies which suggest that caesarean section confers a better outcome in this situation have been subject	7. RCOG Guidline, The Management of Breech Presentation, Guideline No. 20b December 2006

to bias. This is acknowledged in some reports. The poor outcome for very-low-birthweight infants is mainly related to complications of prematurity and not the mode of delivery. (Evidence level III) A specific problem encountered during preterm breech delivery is delivery of the trunk through an incompletely dilated cervix. In this situation, lateral cervical incisions have been used to release the aftercoming head. Similar rates of head entrapment have been described for vaginal and abdominal delivery. (Evidence level IV) In the absence of good evidence that a preterm baby needs to be delivered by caesarean section, the decision about the mode of delivery should be made after close consultation with the woman and her partner. **Classification of evidence levels** Ia Evidence obtained from meta-analysis of randomised controlled trials. Ib Evidence obtained from at least one randomised controlled trial. IIa Evidence obtained from at least one well-designed controlled study without randomisation. IIb Evidence obtained from at least one other type of well-designed quasi-experimental study. III Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies. IV Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities. **Grades of recommendations** A Requires at least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation. (Evidence levels Ia, Ib) B Requires the availability of well controlled clinical studies but no randomised clinical trials on the topic of recommendations. (Evidence levels IIa, IIb, III) C Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. (Evidence level IV) **Good practice point** ✓ Recommended best practice based on the clinical experience of the guideline development group.	
Tegemist väga hea kvaliteediga ravijuhendiga. Sünnitusviisi käsitlev peatükk võttis aga aluseks Cochrane ülevaateartikli, mis omakorda hõlmas vaid madala kvaliteediga uuringuid. The quality assessment of the included trials was downgraded due to study design (outcome assessors were unblinded), incomplete outcome data and small sample size. In addition, recruitment in all 4 included trials was stopped early. The evidence across all studies was of very low quality mainly due to serious limitations on risk of bias and imprecision which gives less confidence to the direction of effects. The main methodological challenge for this review was the very limited data from randomised trials (due to low numbers of women recruited) and the high proportion of babies (20%) who were not delivered by the planned	8. NICE Guidline, **Preterm labour and birth,** 2015

(randomised) mode of birth. This can restrict the generalization of results as the cross over effect of moving from 1 randomised arm to another can introduce bias. Cross over may reflect rapid progress of preterm labour which ends in vaginal birth despite caesarean section being planned and conversely, problems developing during labour may require caesarean section despite aiming for vaginal birth. Three out of 4 studies in the meta-analysis included preterm babies with only breech presentation which are also in higher risk of developing complications than preterm babies with cephalic presentation.
The Committee were aware of the evidence on CS at term, as reviewed in the NICE CS guideline. They felt that the significant maternal effects (such as perineal and abdominal pain during birth, and 3 days post-partum, injury to vagina, early postpartum haemorrhage and obstetric shock) of CS would be similar at term and preterm, although preterm CS would be more likely to require a vertical uterine incision, after which most clinicians would advise caesarean delivery in the next pregnancy. They noted the adverse effects of increased blood loss and risk of wound infection and venous thromboembolism following surgery. The Committee had less confidence about extrapolating the neonatal effects of CS from term to preterm except that upper segment incision has implications for future delivery compared with standard lower segment CS. Nevertheless, the Committee noted that babies born following CS at term had an increased chance of admission for respiratory distress compared with babies born vaginally.

There was inconclusive evidence about the difference in neonatal and maternal outcomes for either CS or vaginal birth for women in suspected or diagnosed preterm labour.

Recommendations

1. **Discuss the general benefits and risks of caesarean section and vaginal birth with women in suspected or diagnosed preterm labour and women with P-PROM (and their family members or carers as appropriate)**
2. **Explain to women in suspected or diagnosed preterm labour and women with P- PROM about the benefits and risks of caesarean section that are specific to gestational age. In particular, highlight the difficulties associated with performing a caesarean section for a preterm birth, especially the increased likelihood of a vertical uterine incision and the implications of this for future pregnancies.**
3. **Explain to women in suspected or diagnosed**

preterm labour that there are no known benefits or harms for the baby from caesarean section, but the evidence is very limited. **4. Consider caesarean section for women presenting in suspected or diagnosed preterm labour between 26+0 and 36+6 weeks of pregnancy with breech presentation, and explain to the woman that:** **a.** caesarean section for breech presentation for preterm babies is common but not universal practice b. this practice is based on an extrapolation of evidence of best management for breech presentation for babies born at term c. there is some evidence that there may be a large reduction in perinatal mortality associated with caesarean section for preterm babies with breech presentation, but overall the evidence is inconclusive	

Lisamaterjal (väiksemad ja/või vanemad uuringud)
Uuring, mis käsitles üsasisese kasvupeetusega vastsündinute (gestatsioonivanuses 25-34rn) sünnitusviisi, leidis, et keisrilõige ei ole seotud paremate neonataalsete tervisetulemitega ning on seotud suurenenud riskiga RDS-i tekkeks. (9)
The Consortium on Safe Labor (CSL) uuring leidis, et tuharseisu korral raseduse suuruses 24+0 - 27+6 planeeritud vaginaalne sünnitus oli võrreldes planeeritud keisrilõikega seotud kõrgema neonataalse suremusega (25.2% versus 13.2%, P=0.003), kuid seotud madalama neonataalse sepsisega (P=0.01) ja vähenenud vajaduse järgi ventilatsiooniks (P=0.023). Raseduse suuruses 28+0-31+6 tuharseisu korral planeeritud vaginaalsetest sünnitustest õnnestus vaid 17,2%. Üleüldine neonataalne suremus selles grupis oli 2,9%. Planeeritud vaginaalne sünnitus võrreldes planeeritud keisrilõikega oli seotud kõrgenenud neonataalse suremusega (6.0% vs. 1.5%, P= 0.016). (10)
CSL uuringus peaseisu korral raseduse suuruses 24+0-27+6 ei leitud erinevust neonataalsetes tulemites vaginaalse sünnituse ja keisrilõike vahel. Raseduse suuruses 28+0 – 31+6 ei leitud keirilõike ja vaginaalse sünnituse vahel erinevusi neonataalse suremuse osas, kuid planeeritud vaginaalse sünnituse korral oli võrreldes keisrilõikega vähem perinataalset asfüksiat (P = 0.004), vähem RDS juhtumeid (P=0.003) ja väiksem vajadus kunstliku ventilatsiooni järele (P=0.004) kuid tõusis IVH esinemissagedus (P=0.0017). (10)

THE SOGC CONSENSUS STATEMENT kohaselt tuleks plaaniline keisrilõige teha kaksiksünnituse korral (OLM >2500g) järgnevatel põhjustel:

- Monoamniaalsed kaksikud
- Siiami kaksikud
- Põhjused, mis üksikloote korralgi

Vaginaalne sünnitus on näidutatud I loote peaseisu ja II loote tuharseisu (OLM 1500-4000g) korral, kui naistearst on võimeline vastu võtma tuharseisus sünnitust.
Puudub tõenduspõhisus sünnitusviisi eelistamise osas I loote peaseisu ja II loote tuhatseisu (OLM 500-1500g) korral (10)

Süstemaatiline ülevaade ja meta-analüüs, mis käsitles sünnitusviisi kaksikraseduse korral leidis, et plaaniline keisrilõige võib parandada madalat 5. minuti Apgari hinnet (eriti juhul, kui I loode on tuhatseisus). Muus osas puuduvad tõendusmaterjalid toetamaks plaanilise keisrilõike tegemist kaksikraseduse korral. (12)

2015 aastal ilmunud populatsioonipõhine uuring, mis käsitles väga enneaegsete (kuni 27rn) vastsündinute sünnitusviisi, leidis, et keisrilõike teostamine vähendab vastsündinute suremust esimesel elupäeval, kuid mitte enam hiljem. Tuharseisu korral vaginaalne sünnitus on seotud suurenenud suremusega ning suurenenud neuroloogilise mahajäämusega 2,5 aasta vanuselt. (13)

Birth data for 1995-2003 from New York City were linked to hospital discharge data. Data were limited to singleton, liveborn, vertex neonates delivered between 25 and 34 weeks of gestation. Births complicated by known congenital anomalies and birth weight less than 500 g were excluded. Small for gestational age was used as a surrogate for intrauterine growth restriction. Associations between method of delivery and neonatal morbidities were estimated using logistic regression. Results: Two thousand eight hundred eighty-five SGA neonates meeting study criteria were identified; 42.1% were delivered vaginally, and 57.9% were delivered by cesarean. There was no significant difference in intraventricular hemorrhage, subdural hemorrhage, seizure, or sepsis between the cesarean delivery and vaginal delivery groups. Cesarean delivery compared with vaginal delivery was associated with increased odds of respiratory distress syndrome. The increased odds persisted after controlling for maternal age, parity, ethnicity, education, primary payer, prepregnancy weight, gestational age at delivery, diabetes, and hypertension. Conclusion: Cesarean delivery was not associated with improved neonatal outcomes in preterm SGA newborns and was associated with an increased risk of respiratory distress syndrome.	9.Werner EF, Savitz DA, Janevic TM, Ehsanipoor RM, Thung SF, Funai EF, Lipkind HS. Mode of delivery and neonatal outcomes in preterm, small-for-gestational-age newborns. Obstet Gynecol. 2012 Sep;120(3):560-4. 2012
The Consortium on Safe Labor (CSL) was a study conducted by the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development, National Institutes of Health and has been described in detail elsewhere.19 Briefly, CSL was a retrospective cohort study involving 228,668 deliveries between 2002 and 2008 from 12 clinical centers and 19 hospitals representing nine American Congress of Obstetricians and Gynecologists districts. All deliveries at 23 weeks' gestation or greater were included in the CSL cohort.	**10.** Reddy UM1, Zhang J, Sun L, Chen Z, Raju TN, Laughon SK. Neonatal mortality by attempted route of delivery in early preterm birth

(Tuharseis) At 24 0/7 – 27 6/7 weeks' gestation with a breech presentation, (N= 388), 68.3 % underwent planned CD and 31.7 % attempted VD. Of those with attempted VD, only 27.6% had a successful vaginal delivery. By univariable analyses, the planned CD pregnancies were more likely to have preeclampsia and less likely to be complicated by preterm labor when compared to the attempted VD group (P < 0.05). (Table 3) Overall neonatal mortality in this group was 17.0% (66/388). When compared to planned CD, attempted VD was associated with a higher rate of neonatal mortality (25.2% versus 13.2%, P=0.003), but a lower rate of neonatal sepsis (P=0.01) and decreased need for neonatal ventilation (P=0.023). At 28 0/7 – 31 6/7 weeks' gestation with a breech presentation (N= 380), 69.5% underwent planned CD and 30.5% attempted VD. Of those with attempted VD, only 17.2% had a successful vaginal delivery. By univariable analyses, the planned CD pregnancies were more likely to have preeclampsia and less likely to be complicated by preterm labor when compared to the attempted VD group (P < 0.05). (Table 3) Overall neonatal mortality in this group was 2.9% (11/380). Attempted VD compared to planned CD was associated with increased neonatal mortality (6.0% vs. 1.5%, P= 0.016). **(Peaseis)** For vertex presentation at 24 0/7 – 27 6/7 weeks' gestation, there were no differences in individual neonatal outcomes or in the composite outcome between attempted vaginal delivery and planned CD. At 28 0/7 – 31 6/7 weeks' gestation with a vertex presentation, (N=1,424), 20.1% underwent planned CD and 79.9% attempted VD. Of those with attempted VD, 84.3% had a successful vaginal delivery. By univariable analyses, the planned CD pregnancies were more likely to have private insurance, be multiparous, have diabetes or have preeclampsia and less likely to have PPROM and preterm labor when compared to the attempted VD group (P < 0.05). (Table 3) Overall neonatal mortality in this group was 2.4% (34/1,424). When attempted VD was compared to planned CD, there were no differences in neonatal mortality. Compared to planned CD, attempted VD was associated with lower rates of perinatal asphyxia (P = 0.004), fewer cases of RDS (P=0.003) and a reduced need for assisted ventilation (P=0.004) but higher rates of IVH (P=0.0017).	Am J Obstet Gynecol. 2012 Aug;207(2):117.e1-8. doi: 10.1016/j.ajog.2012.06.023. Epub 2012 Jun 19.
What is the best method of delivering the non vertex second twin? CONSENSUS STATEMENT #20 a) Delivery of cephalic twin A/non-cephalic twin B: Estimated weight 1,500-4,000	11. Jon Barrett (Editor and Chair), MD, FRCSC Alan Bocking (Co-chair), MD, FRCSC, SOGC CLINICAL

g. Vaginal delivery is indicated as long as the obstetrician is comfortable with and skilled in vaginal breech delivery (II-2 B) b) Delivery of cephalic twin A/non-cephalic twin B: Estimated weight 500-1,500 g. In this weight range the group acknowledged that there is no consistent evidence to support either Caesarean section or the vaginal route for delivery What are the indications for elective Caesarean in twin pregnancies (> 2,500g)? CONSENSUS STATEMENT #18 The indications for elective Caesarean section in twin gestations are: a) Monoamniotic twins because the risk of entrapment is too great to permit elective vaginal delivery; b) Conjoined twins other than at gestations remote from term; c) Indications as for singleton pregnancies. (III C)	PRACTICE GUIDELINES THE SOGC CONSENSUS STATEMENT Management of Twin Pregnancies 2000
STUDY DESIGN: We searched MEDLINE and EMBASE from 1980 through May 2001 using combinations of the following terms: twin, delivery, cesarean section, vaginal birth, birth weight, and gestational age. Studies that compared planned cesarean section to planned vaginal birth for babies weighing at least 1500 g or reaching at least 32 weeks' gestation were included. We computed pooled odds ratios for perinatal or neonatal mortality, low 5-minute Apgar score, neonatal morbidity, and maternal morbidity. The infant was the unit of statistical analysis. Results were considered statistically significant if the 95% CI did not encompass 1.0. RESULTS: We retrieved 67 articles, 63 of which were excluded. Four studies with a total of 1932 infants were included in the analysis. A low 5-minute Apgar score occurred less frequently in twins delivered by planned cesarean section (odds ratio, 0.47; 95% CI, 0.26-0.88) principally because of a reduction among twins if twin A was in breech position (odds ratio, 0.33; 95% CI, 0.17-0.65). Twins delivered by planned cesarean section spent significantly longer in the hospital (mean difference, 4.01 days; 95% CI, 0.73-7.28 days). There were no significant differences in perinatal or neonatal mortality, neonatal morbidity, or maternal morbidity. CONCLUSION: Planned cesarean section may decrease the risk of a low 5-minute Apgar score, particularly if twin A is breech. Otherwise, there is no evidence to support planned cesarean section for twins.	**12.** Hogle KL, Hutton EK, McBrien KA, Barrett JF, Hannah ME. Cesarean delivery for twins: a systematic review and meta-analysism AJ Obstet Gynecol. 2003 Jan;188(1):220-7.

1011 vastsündinut enne 27 rasedusnädalat, populatsioonipõhne uuring. **Most obstetric interventions, including transport to level III perinatal centers, tocolysis and cesarean section, decreased the risk of death within the first day of life, but not thereafter. Vaginal breech delivery was associated with increased risk both for mortality and for neurodevelopmental delay at 2.5 years of age.**	**13. KARIN KALLEN, FREDRIK SERENIUS, MAGNUS WESTGREN, KAREL MARSAL & THE EXPRESS GROUP Impact of obstetric factors on outcome of extremely preterm births in Sweden: prospective population-based observational study (EXPRESS), 2015**

05.10.2015 Pubmed otsing.
(((((((preterm birth[All Fields] OR preterm birth,[All Fields] OR preterm birthrate[All Fields] OR preterm birthrates[All Fields] OR preterm births[All Fields] OR preterm birthweight[All Fields]) OR (preterm labor[All Fields] OR preterm laboring[All Fields] OR preterm labors[All Fields])) OR (preterm labour[All Fields] OR preterm labours[All Fields])) OR (preterm delivered[All Fields] OR preterm deliveries[All Fields] OR preterm delivering[All Fields] OR preterm delivery[All Fields])) OR (premature birth[All Fields] OR premature births[All Fields])) OR (premature labor[All Fields] OR premature labors[All Fields])) OR (premature labour[All Fields] OR premature labours[All Fields])) OR (premature deliveries[All Fields] OR premature delivery[All Fields])) AND (mode[All Fields] AND ("delivery, obstetric"[MeSH Terms] OR ("delivery"[All Fields] AND "obstetric"[All Fields]) OR "obstetric delivery"[All Fields] OR "delivery"[All Fields])) AND ((Randomized Controlled Trial[ptyp] OR systematic[sb] OR Meta-Analysis[ptyp])
Otsing piiratud inglise keelega.
Vasteid tuli 44, millest antud teemat käsitlesid 4 uuringut. Neist omakorda 1 uuring kordus ja üks uuring lõpetati liiga väikese valimi tõttu. Seega, sobivaks jäi kaks süstemaatilist ülevaadet.
Varasematest otsingutest oli olemas Scientific Impact Paper RCOG-i poolt väljaantuna teemal: Perinatal Management of Pregnant Women at the Threshold of Infant Viability– the Obstetric Perspective

Lisamaterjal pärines töögrupi poolt saadetud uuringutest ning nende uuringute viidetest.

Otsingu strateegia.

05.10.2015 Pubmed otsing.
(((((((preterm birth[All Fields] OR preterm birth,[All Fields] OR preterm birthrate[All Fields] OR preterm birthrates[All Fields] OR preterm births[All Fields] OR preterm birthweight[All Fields]) OR (preterm labor[All Fields] OR preterm laboring[All Fields] OR preterm labors[All Fields])) OR (preterm labour[All Fields] OR preterm labours[All Fields])) OR (preterm delivered[All Fields] OR preterm deliveries[All Fields] OR preterm delivering[All Fields] OR preterm delivery[All Fields])) OR (premature birth[All Fields] OR premature births[All Fields])) OR (premature labor[All Fields] OR premature labors[All Fields])) OR (premature labour[All Fields] OR premature labours[All Fields])) OR (premature deliveries[All Fields] OR premature delivery[All Fields])) AND (mode[All Fields] AND ("delivery, obstetric"[MeSH Terms] OR ("delivery"[All Fields] AND "obstetric"[All

Fields]) OR "obstetric delivery"[All Fields] OR "delivery"[All Fields])) AND ((Randomized Controlled Trial[ptyp] OR systematic[sb] OR Meta-Analysis[ptyp])
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