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# Hands-on or hands-off the perineum at childbirth: A re-appraisal of the available evidence

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Obstetric anal sphincter injuries (OASIS), or third-degree and fourth-degree perineal tears, represent a serious complication of vaginal birth. There are reports that OASIS is a risk factor for the development of anal incontinence[1-4], with significantly worse bowel symptoms and anorectal function with the higher degree of OASIS[5,6]. In addition, the economic cost of anal incontinence management following OASIS has been estimated to be approximately £1625 per patient[7] or £78 million per annum in the United Kingdom alone[8].

The current UK based maternity practice at second stage of labour involves two techniques[9,10] : **1)** 'hands-on', where one hand of the practitioner applies pressure on the fetal head while the other hand supports the perineum, **2)** 'hands-poised', where the hands of the practitioner are poised, ready to apply light pressure on the fetal head to avoid rapid expulsion. Most often, however, this latter technique has been misinterpreted as a 'hands-off technique'.

The Royal College of Midwives (RCM) in 2012, and in line with the NICE 2007 guidance on intrapartum care, has suggested that the available evidence is inconclusive as to whether the 'hands-on' technique reduces the incidence of severe perineal trauma[11]. The RCM 2012 and NICE 2007 recommendations were based on two randomised controlled trials (RCTs), those of McCandlish et al. (1998) in the UK and Mayerhofer et al. (2002) in Austria[12,13], which have however received heavy criticism from later studies as to the validity of their results and the robustness of their study design and methodology[14,15].

In the United Kingdom the incidence of OASIS for primiparous women has been reported to have tripled from 1.8% to 5.9%, over a 12-year period[8]. In Norway, the OASIS rate has increased from <1% in the 1960s to 4.3% at the beginning of the past decade[16,17]. A similar increase has been noted in other European countries, with the exception of Finland where the OASIS rate has remained stable at less than 1% over the past 25 years[18,19]. It is considered that this increase is secondary to the increased incidence of instrumental deliveries, improved training for health professionals and changing maternal-fetal risk factors. Nevertheless, regardless of the above-mentioned factors, the low risk of OASIS in Finland is suggested to be due to the classic 'hands-on' technique of perineal support at birth[19,20]. This hypothesis was tested in Norway in two hospital-based studies (2010 and 2012) that showed a significant decrease of OASIS by 50-70%[1,16] . It is interesting that these two studies were commissioned by the Norwegian Board of Health in 2004 as part of the national strategy to reduce OASIS, since hospitals were heavily criticised for having a high OASIS rate of 4.5% in 2004, and were therefore required to implement programs to reduce this.

Following these two studies[1,16], there was a UK population-based study in 2016 that replicated the study design of the Norwegian studies[21]. This UK study showed that 'hands-on' the perineum during the crowning at second stage reduced the OASIS overall rates by 23% and the 3c third degree and 4th degree tears by 71%. In a recent metanalysis in 2015 of observational studies, it was also shown that there was a significant reduction in the risk of OASIS with manual protection[22].

At present in the United Kingdom, there is a collaborative project named the OASI Care Bundle Project, which is a collaboration between the professional bodies of the Royal College of Midwives and the Royal College of Obstetricians and Gynaecologists funded by The Health Foundation[23]. The aim of this project is to reduce OASIS through a standardised practice and involves 16 participating maternity units in the UK. The OASI Care Bundle will be applied to all women in the participating maternity units at childbirth and includes communicating with the woman to enable a slow controlled birth of the baby's head, performing a mediolateral episiotomy if and when indicated, and using manual perineal protection for all spontaneous births and all assisted instrumental deliveries. This project has the scientific rigor, sufficient sample size and robust methodology to assess whether 'hands-on' should be the preferred practice or not.

In conclusion, obstetric anal sphincter injuries (OASIS) affect a significant number of women at childbirth every year worldwide. This is a woman's health problem with serious quality of life and long-term adverse health-economic implications. The current evidence is that 'hands-on' manual support of the



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perineum at birth might reduce significantly the incidence of OASIS. With the implementation of the OASI Care Bundle Project this issue will be finally clarified and midwifery practice in the United Kingdom and internationally will be significantly altered.

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**CONFLICT OF INTEREST**
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