NICE National Institute for Health and Care Excellence

2021 exceptional surveillance of caesarean birth – surgical opening technique (NICE guideline NG192)

Surveillance report
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Surveillance decision

We propose to update the recommendation on the Joel–Cohen transverse incision in the NICE guideline on caesarean birth. An editorial amendment will be made in the interim to reduce confusion.

Exceptional surveillance review summary

Reason for considering this area

An external enquirer informed NICE that recommendation 1.4.29 in the NICE guideline on caesarean birth seemed incorrect as the Joel–Cohen incision is not 3 cm above the symphysis pubis, but rather about 3 cm below a line joining the anterior superior iliac spines.

Methods

To review the impact of this query on NICE guidance we took the following approach:

- Considered the evidence used to develop the NICE guideline on caesarian birth related to recommendation 1.4.29.
- Considered approaches to resolve this issue with NICE editors and the clinical adviser.
- Discussed the issue with a clinical adviser involved in developing the original guideline who contacted 3 obstetricians to seek further clinical feedback.

Full updated literature searches were not needed because the information we obtained was enough to establish whether an update to the guideline was needed.

For further information, see ensuring that published guidelines are current and accurate in developing NICE guidelines: the manual.

Surveillance proposal

How the guideline was developed

The original guideline dates back to 2004, although there have been updates to parts of the guideline in 2011 and 2020.

Recommendation 1.4.29 dates back to 2004 and states:

'Perform caesarean birth using the Joel–Cohen transverse incision (a straight skin incision, 3 cm above the symphysis pubis; subsequent tissue layers are opened bluntly and, if necessary, extended with scissors and not a knife). This allows for shorter operating times and reduces post-operative febrile morbidity. **[2004]**'.

The 2011 version of the guideline states that Pfannenstiel, Maylard and Joel–Cohen all described transverse abdominal wall incisions used for caesarean section. The Pfannenstiel incision consists of a curved skin incision, 2 fingers breadths above the symphysis pubis, transverse incision of the sheath, rectus muscles are separated bluntly and the parietal peritoneum is incised in the midline. Maylard incision is similar but the rectus muscles are cut transversely with a knife. The Joel–Cohen incision is a straight skin incision 3 cm above the pubic symphysis, then subsequent layers are opened bluntly and if necessary extended with scissors and not a knife.

In the original guideline evidence, 2 randomised controlled trials (RCTs) compared Pfannenstiel incision with the Joel–Cohen incision, and found that Joel–Cohen was associated with shorter operating time and reduced post-operative febrile morbidity. Two RCTs compared Pfannenstiel with Maylard incisions and showed no difference in terms of operative and post-operative morbidity.

Previous surveillance

The 2017 surveillance review prompted an update in 2020 but not of recommendation 1.4.29. With regards to this recommendation, the surveillance review found 3 studies. One Cochrane review evaluated different abdominal wall incisions for caesarian section. The review included 4 RCTs (n=666) comparing Joel–Cohen incision, Pfannenstiel incision, muscle cutting incisions Mouchel incision (2 compared Joel–Cohen with Pfannenstiel incision [n=411]; 1 of which was included in the original guideline). Joel–Cohen incision was

associated with a reduction of the operative time, post-operative pain (painkiller requirement and more time to the first dose), blood loss, post-operative febrile morbidity and hospital stay compared with Pfannenstiel incision. However, it must be noted that it is unclear if either study was powered for outcomes. Authors highlighted that there is no evidence about the impact of abdominal wall incisions on long term outcomes.

One RCT (Saha et al. 2013; n=302) compared a modified Joel–Cohen incision with Pfannenstiel incision for caesarean section and found similar results to the Cochrane review. Another RCT (Ezechi et al. 2013; n=323) compared Misgav-Ladach technique with Pfannenstiel incision and found that Misgav-Ladach technique was associated with a reduction of the operative time, post-operative pain, blood loss, and post-operative complications compared with Pfannenstiel incision.

Overall, the surveillance evidence found that recommendation 1.4.29 was deemed to be in keeping with the original evidence base and as such no update to the recommendation was proposed.

New intelligence and evidence

An enquirer contacted NICE to highlight that recommendation 1.4.29 was incorrect as Pfannenstiel incision is 2 cm to 3 cm (2 fingers) above symphysis pubis; not Joel–Cohen, which is 3 cm below line joining the 2 anterior superior iliac spines.

Experts agreed that this recommendation was incorrect. The Joel–Cohen skin incision is described as being a transverse incision 3 cm below the anterior superior iliac spines. However, none of the 3 obstetricians contacted used the anterior superior iliac spines as an anatomical reference point for incision. In clinical practice this was not thought to be a helpful reference point for determining an incision line.

The experts stated that the definition of the Pfannenstiel skin incision is a skin crease transverse incision about 2 cm to 3 cm above the symphysis pubis. The experts explained that the symphysis pubis is easily recognisable and an incision that is less affected by maternal factors and therefore more likely to be in a better position for continuing to open the abdomen. The subcutaneous layers are then bluntly expanded in keeping with Joel–Cohen. On closure the incision looks somewhat like a smile, a term sometimes used.

As the experts indicated that Pfannenstiel seems to be the more common clinical incision approach, this would go beyond a correction of recommendation 1.4.29 as it is not in line

with the evidence used to develop the original guideline or evidence found during previous surveillance. As such, a committee will need to update the recommendation.

However, in the interim it was felt important to edit the recommendation to reduce confusion. As the experts did not wish to correct the definition for Joel–Cohen, the following editorial amendment was proposed.

'Perform caesarean birth using a transverse incision (a straight skin incision, 3 cm above the symphysis pubis; subsequent tissue layers are opened bluntly and, if necessary, extended with scissors and not a knife). This allows for shorter operating times and reduces post-operative febrile morbidity.'

Equalities

No equalities issues were identified.

Overall decision

We propose to update the recommendation on the Joel–Cohen transverse incision in the NICE guideline on caesarean birth. An editorial amendment will be made in the interim to reduce confusion.

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