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March 26, 2018

Dr Leona Dann
Maternal Morbidity Working Group
Health Quality and Safety Commission
PO Box 25496
Wellington 6146

By email: Leona.dann@hqsc.govt.nz

Dear Leona,

Re: Maternity vital signs chart

Thank you for the opportunity to provide feedback on the maternity vital signs chart that has been developed by the Maternal Morbidity Working Group. As you may know, the Australian and New Zealand College of Anaesthetists (ANZCA), which includes the Faculty of Pain Medicine, is the education and training body responsible for the postgraduate medical training programs and continuing professional development in anaesthesia and pain medicine for New Zealand and Australia.

The New Zealand National Committee (NZNC) of ANZCA has considered the maternity vital signs chart, and has sought input from the national obstetric anaesthesia leads (NOAL) network. Overall, based on feedback from the NOAL network, the NZNC highly commends the Maternal Morbidity Working Group for developing this national initiative, and is supportive of its implementation.

The NZNC has some specific feedback that the NOAL network provided, on elements of the chart, as follows:

Use in labour

We note that the introductory wording for the chart suggests that use of the chart would be contraindicated in labour. We agree that the chart would generally not be appropriate for use in labour. However, for some women who are already at risk or have developed significant morbidity (e.g. known cardiac disease, or mild sepsis or flu) prior to labour, the chart could still be appropriate to use during labour, as these women need closer observation. As such, we recommend that the chart's use in labour should not be absolutely ruled out, and the introductory wording should reflect this.

Oxygen saturation

In terms of oxygen saturation, any oxygen saturation <95% is abnormal in pregnancy. As such, this should trigger on saturation of 94%. The rationale for this is that the PaO2 is 6% higher in pregnancy. At 98.5 vs 93 mmHg, the PaO2 has to drop to about 75 mmHg to get below 95% saturation, which is a large drop and getting to the "steep

part" of the O2 dissociation curve.[1] If a mother's oxygenation is reduced it will compromise fetal oxygenation as the fetus relies on oxygen from the mother, which may be why pregnant women have a higher PaO2. Consistent with this rationale, we note that the Welsh National Obstetric Early Warning Score uses <95%.[2]

This suggestion is different to the non-pregnant adult chart. However, we consider this appropriate as the non-pregnant adult chart is designed for a different population (e.g. not pregnant, and frequently more elderly). It covers a population where is it now accepted that low saturations may not per se be harmful. In contrast, low saturation in a mother may increase the risk to the fetus, and therefore be more likely to cause harm. For example, in acute asthma, saturations <94% are considered acceptable in adults, but are not considered acceptable in pregnant adults.[3] [4]

We also note that saturations of 90% or less could be immediately life threatening for pregnant women, and certainly will be in women already taking oxygen. This should be reflected in the chart.

Level of consciousness

For level of consciousness, the pain row on the chart should be coloured blue. Any woman who is only responsive to pain is seriously compromised.

Format of the chart

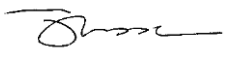
In terms of format, it is unclear how the chart would look in patient notes. Folding an A3 sheet of paper usually will not fit properly in the notes. We recommend adding a coloured band down the right hand side of its closed format to make it easier to find in the notes. This could be unit dependent to fit with other local colour codes, or an agreed national colour.

National Maternity Record

The NZNC notes that with the implementation of the National Maternity Record, there may be opportunity in future to extract data on a large number of observations taken during physiological or vaginal births. This data could be used to establish what normal observations look like in labour, which may help inform evolution of the chart in future.

Thank you once again for the opportunity to provide feedback. If you have any questions about this submission, please contact Virginia Mills (Senior Policy Adviser) in the first instance at vmills@anzca.org.nz or on 04 495 9790.

Yours sincerely,



Dr Jennifer Woods
Chair, New Zealand National Committee

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[1] McAuliffe et al. Blood gases in pregnancy at sea level and at high altitude. British Journal of Obstetrics and Gynaecology 2001;108:980-985.

[2] Banfield et al. The early detection of maternal deterioration in pregnancy. The Health Foundation, 2015. Available from: http://patientsafety.health.org.uk/resources/early-detection-of-maternal-deterioration-pregnancy

[3] Rey et al. Asthma in pregnancy. British Medical Journal 2007;334:582-5.

[4] Schatz et al. Asthma in pregnancy. New England Journal of Medicine 2009;360:1862-9.