Canadian Consensus Guidelines for Perinatal Testing

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GHEST

September 16, 2023

Objectives

- Learn about the recent Canadian Consensus Conference on Perinatal Testing
  - How does a consensus conference work
  - Why did we have one
  - What have we done so far
  - What are next steps
- Understand the background and future prospects for some of the new & controversial statements
  - Titration of anti K
  - The need for RhIG early pregnancy loss
  - Requirement for 28 week group and screen

How does a consensus conference work?

According to Wikipedia:

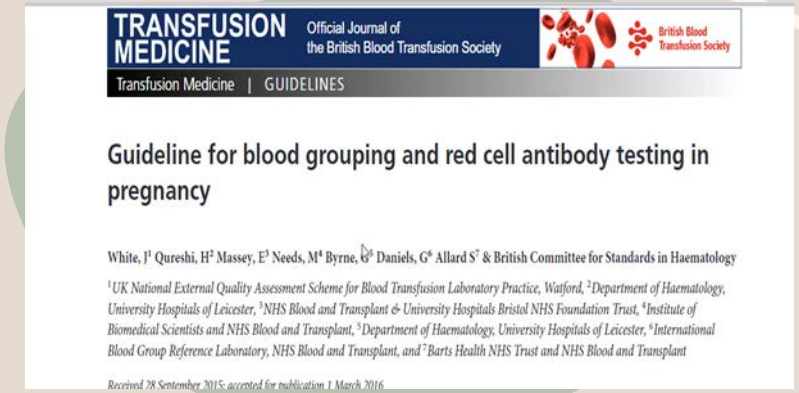
- A scientific conference meant to reach scientific consensus

We used a “modified Delphi” approach to achieving consensus[1]

- *Delphi techniques of achieving consensus are used internationally to investigate a wide variety of issues. The aim is to develop an expert-based judgment about a question.*
- *This is based on the assumption that a group of experts and the multitude of associated perspectives will produce a more valid result than a judgment given by an individual expert, even if this expert is the best in his or her field.*

Niederberger M and Spranger J (2020) Delphi Technique in HealthSciences: A Map.Front. Public Health 8:457. doi: 10.3389/fpubh.2020.00457

Why did we decide to have a modified Delphi consensus conference?



TRANSFUSION MEDICINE
Official Journal of the British Blood Transfusion Society
British Blood Transfusion Society
Transfusion Medicine | GUIDELINES

Guideline for blood grouping and red cell antibody testing in pregnancy

White, J[1] Qureshi, H[2] Massey, E[3] Needs, M[4] Byrne, G[5] Daniels, G[6] Allard S[7] & British Committee for Standards in Haematology

[1]UK National External Quality Assessment Scheme for Blood Transfusion Laboratory Practice, Watford, [2]Department of Haematology, University Hospitals of Leicester, [3]NHS Blood and Transplant & University Hospitals Bristol NHS Foundation Trust, [4]Institute of Biomedical Scientists and NHS Blood and Transplant, [5]Department of Haematology, University Hospitals of Leicester, [6]International Blood Group Reference Laboratory, NHS Blood and Transplant, and [7]Barts Health NHS Trust and NHS Blood and Transplant

Received 28 September 2015; accepted for publication 1 March 2016

POSITION STATEMENT

Canadian Paediatric Society

Guidelines for detection, management and prevention of hyperbilirubinemia in term and late preterm newborn infants

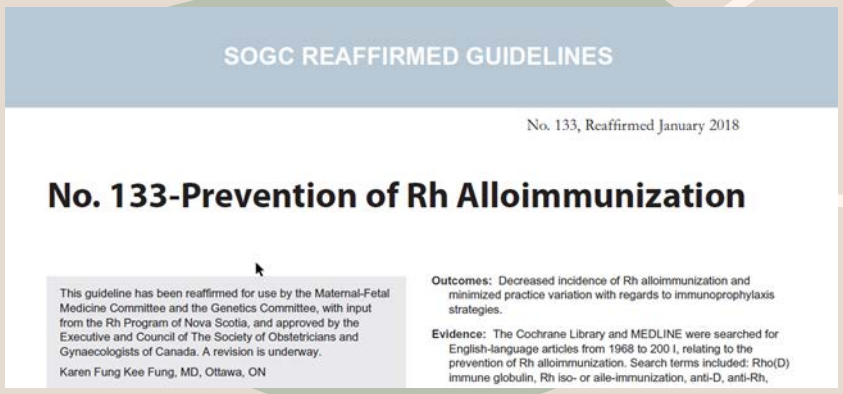
CSTM Canadian Society for Transfusion Medicine
SCMT Société canadienne de médecine transfusionnelle

Canadian Obstetrical Pediatric Transfusion Network (COPTN)
2018 Survey Report

Introduction

The Canadian Obstetrical Pediatric Transfusion Network (COPTN) is a sub-committee of the Canadian Society for Transfusion Medicine (CSTM). It was founded in 2017 and its mandate is to assess, analyze and strive to implement best practices in pediatric and obstetrical transfusion practice in Canada.

One of the first projects this committee undertook was to send out a Canada-wide survey pertaining to perinatal testing and RhIG administration practice in the perinatal population. The survey was



SOGC REAFFIRMED GUIDELINES

No. 133, Reaffirmed January 2018

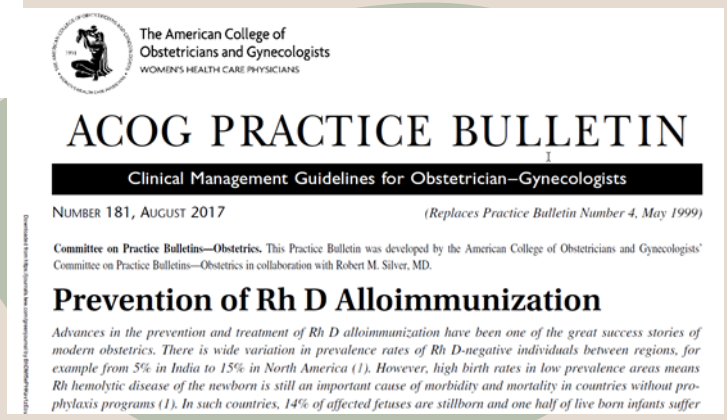
No. 133-Prevention of Rh Alloimmunization

This guideline has been reaffirmed for use by the Maternal-Fetal Medicine Committee and the Genetics Committee, with input from the Rh Program of Nova Scotia, and approved by the Executive and Council of The Society of Obstetricians and Gynaecologists of Canada. A revision is underway.

Karen Fung Kee Fung, MD, Ottawa, ON

Outcomes: Decreased incidence of Rh alloimmunization and minimized practice variation with regards to immunoprophylaxis strategies.

Evidence: The Cochrane Library and MEDLINE were searched for English-language articles from 1968 to 200 l, relating to the prevention of Rh alloimmunization. Search terms included: Rho(D) immune globulin, Rh iso- or aile-immunization, anti-D, anti-Rh,



The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

ACOG PRACTICE BULLETIN

Clinical Management Guidelines for Obstetrician–Gynecologists

NUMBER 181, AUGUST 2017 *(Replaces Practice Bulletin Number 4, May 1999)*

Committee on Practice Bulletins—Obstetrics. This Practice Bulletin was developed by the American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics in collaboration with Robert M. Silver, MD.

Prevention of Rh D Alloimmunization

Advances in the prevention and treatment of Rh D alloimmunization have been one of the great success stories of modern obstetrics. There is wide variation in prevalence rates of Rh D-negative individuals between regions, for example from 5% in India to 15% in North America (1). However, high birth rates in low prevalence areas means Rh hemolytic disease of the newborn is still an important cause of morbidity and mortality in countries without prophylaxis programs (1). In such countries, 14% of affected fetuses are stillborn and one half of live born infants suffer

What did we really do?

- A planning group developed a series of proposed guideline statements pertaining to perinatal testing
- Medical Experts from a variety of related fields including Transfusion, Obstetrics and Paediatrics and Family Medicine as well as a variety of professionals including Midwives, Nurses, Medical Technologists, Physicians and a Patient were invited to gather and discuss the statements
- New or controversial statements were introduced through a series of presentations (https://transfusionontario.org/category/orbcon-resources/presentation-library/perinatal-consensus-conference/
- Panelists listened to, discussed and modified the statements in a face-to-face meeting
- Later, panelists and speakers voted for and ranked agreement with the statements in an online survey
- A second and third voting survey followed, each incorporating input and results from the last
- Two virtual panelist meetings and a 4th round of voting served to resolve the more controversial statements

Why a modified Delphi approach

- The evidence is uncertain and incomplete
- Expertise is divided amongst many fields of practice
- Consensus amongst practitioners from various fields and disparate practice types and locations might assist with implementation of change
- This approach has been successful in other guideline development projects in Canada
- ***There is an opportunity for national consensus and national adoption of the guidelines***

…AND IN THE END

44 Statements were agreed
4 Publications are in Preparation

1. Outlines the Consensus Process and the 44 Consensus Statements for Canada
2. Outlines the recommendations related to routine prenatal testing and prophylactic RhIG therapy
3. Outlines the testing recommendations for alloimmunized pregnancies
4. Outlines the testing recommendations for cord blood and neonatal testing

Opportunities for practice change

STATEMENT 9

- **For any pregnancy less than eight (8) weeks gestational age (8 weeks + 0 days) experiencing an abortion (threatened, spontaneous or therapeutic) or any significant FMH event, an ABO, RhD, and antibody screen are not recommended and RhIg is not required.**

STATEMENT 16

- **For anti-K antibodies early consultation with Maternal Fetal Medicine is recommended.**

STATEMENT 7

- **A routine ABO, RhD and antibody screen may not be necessary at 28 weeks gestation for either RhD positive or RhD negative pregnancies.**

Statement 9

For any pregnancy less than eight (8) weeks gestational age (8 weeks + 0 days) experiencing an abortion (threatened, spontaneous or therapeutic) or any significant FMH event, an ABO, RhD, and antibody screen are not recommended and RhIg is not required.

- *This recommendation requires reliable dating of pregnancy*
- *Prior to 8 weeks + 0 days there are insufficient fetal red cells (and insufficient RhD antigen) to contribute to sensitization*
- *Where gestational age is uncertain ABO, RhD, antibody screen and RhIg may be required (see statement 26)*

Statement 16

For anti-K antibodies early consultation with Maternal Fetal Medicine is recommended.

- *The critical titer for anti-K antibodies is not broadly agreed upon. A critical or cut off titer is an antibody level, established by titration, below which fetal anemia is not expected to occur. Once the critical titer is reached, monitoring by MCA Doppler ultrasound is preferred over monitoring by titration, as it provides a direct measure of the degree of fetal anemia and can indicate when intra uterine transfusion (IUT) should be provided.*

- *The titer at which fetal anemia may occur with anti-K has been evaluated in several studies over a period spanning 30 years.*

- *All studies show that for most individuals with anti-K, the need for IUT will not arise below a titer level of 1:32; however, in a small subset of those with anti-K antibodies in pregnancy, significant anemia may occur at very low titer levels.*

- *For this reason, early consultation with Maternal Fetal Medicine is recommended for all pregnancies with anti-K. The decision on whether to routinely titrate anti-K antibodies and on what titer level will be considered critical, should be made by maternal fetal medicine together with the laboratory performing antibody titration for those patients.*

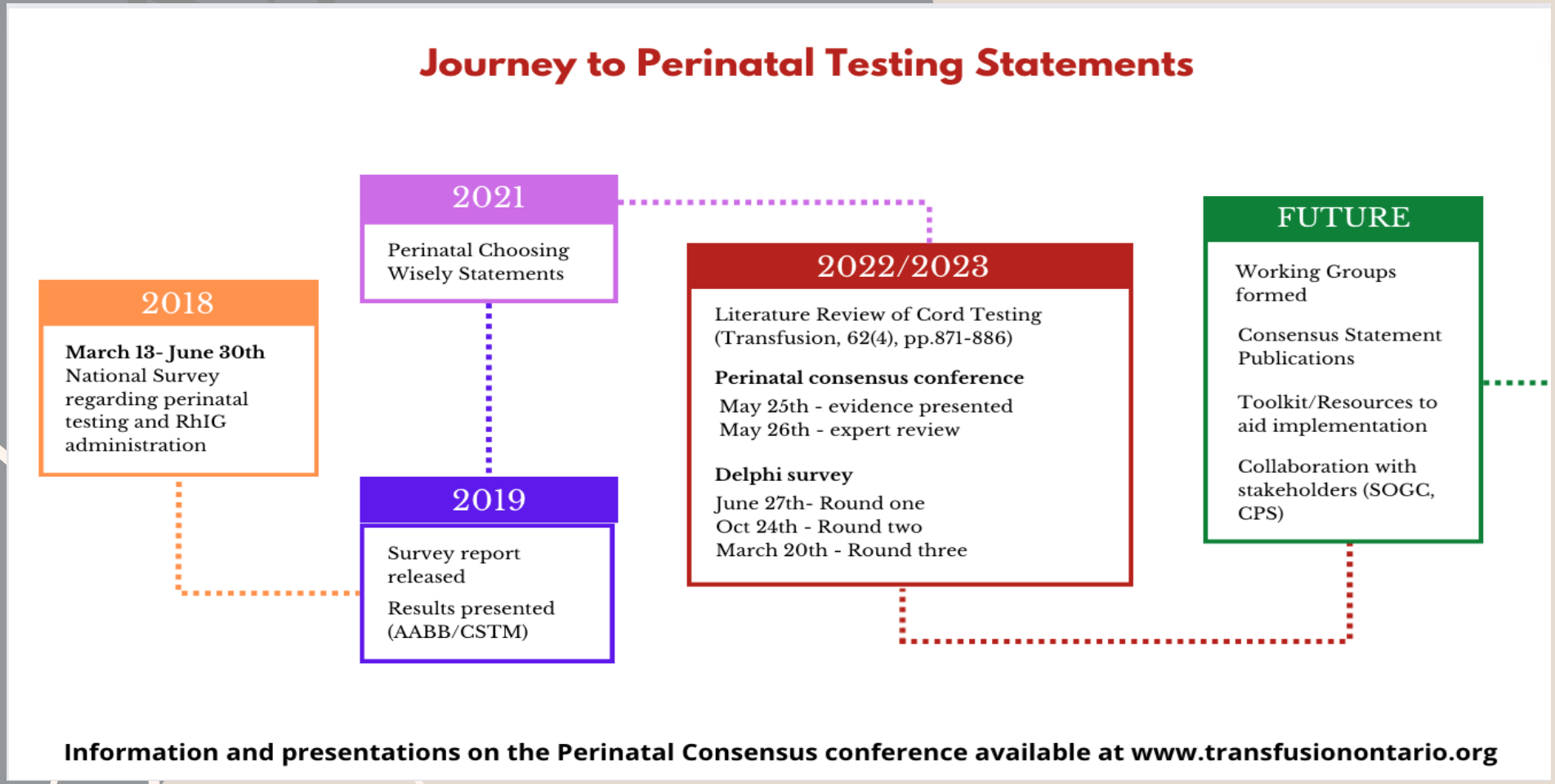
Author	Year	Population Studied	Ab titre or Quantity for Cutoff/critical value
Bowman (Manitoba)	1992	Kell alloimmunized pregnancies (475)	1:8
Babinszki (Mount Sinai, New York)	1998	Kell (5) and RhD(26) alloimmunized pregnancies requiring IUT	No titer recommended; monitor with U/S
McKenna (Ohio State University)	1999	Kell alloimmunized pregnancies (156)	1:32
Ahaded (Paris)	2002	Kell (8) and RhD (8) alloimmunized pregnancies requiring IUT	Anti K quantity 1 - 4.1 ug/mL (mean 2.2) Anti D quantity 4.5 - 18 ug/mL (mean 8.0)
Van Wamelen (Netherlands)	2007	Kell alloimmunized pregnancies requiring IUT (41)	1:2
Slootweg (Netherlands)	2018	Kell alloimmunized pregnancie with K positive fetus (93)	1:4
Vlachodimitropoulou (Mount	2021	Kell (31) and RhD(97) alloimmunized	1:32

Statement 7

A routine ABO, RhD and antibody screen may not be necessary at 28 weeks gestation for either RhD positive or RhD negative pregnancies.

- *ABO, RhD and antibody screen are required if testing earlier in pregnancy is not available or was not performed (see statement 4)*
- *Routine RhIg prophylaxis should be provided to eligible pregnant individuals based on RhD and antibody screening performed earlier in pregnancy (see statement 13)*
- *ABO, RhD and antibody screen may be repeated prior to RhIg prophylaxis if there has been a potential alloimmunizing event (see statement 8)*

Summary


Journey to Perinatal Testing Statements
2018
March 13- June 30th
National Survey regarding perinatal testing and RhIG administration
2019
Survey report released
Results presented (AABB/CSTM)
2021
Perinatal Choosing Wisely Statements
2022/2023
Literature Review of Cord Testing (Transfusion, 62(4), pp.871-886)
Perinatal consensus conference
May 25th - evidence presented
May 26th - expert review
Delphi survey
June 27th- Round one
Oct 24th - Round two
March 20th - Round three
FUTURE
Working Groups formed
Consensus Statement Publications
Toolkit/Resources to aid implementation
Collaboration with stakeholders (SOGC, CPS)
Information and presentations on the Perinatal Consensus conference available at www.transfusionontario.org

thank you

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