



Management of Hepatitis C in pregnancy

This statement has been developed and reviewed by the Women's Health Committee and approved by the RANZCOG Board and Council.

A list of Women's Health Committee Members can be found in [Appendix A](#).

Disclaimer This information is intended to provide general advice to practitioners. This information should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The document has been prepared having regard to general circumstances.

First endorsed by RANZCOG: June 1998

Current: July 2016

Review due: July 2019

Objectives: To provide advice on the management of Hepatitis C in pregnancy.

Target audience: All health practitioners providing obstetric care, and patients. In addition, this may provide useful information for those working in Aboriginal communities.

Outcomes: Reduce the transmission of Hepatitis C from infected mothers to infants.

Evidence: A literature search was undertaken to identify articles relating to the management of Hepatitis C in pregnancy. Additional searches were undertaken for Australian, New Zealand and other international guidelines on this topic.

Values: The evidence was reviewed by the Women's Health Committee (RANZCOG). The evidence was reviewed by the Women's Health Committee (RANZCOG), and applied to local factors relating to Australia and New Zealand.

Background: This statement was first developed by RANZCOG in June 1998 and was most recently revised in July 2016.

Funding: The development and review of this statement was funded by RANZCOG.

1. Patient summary

Hepatitis C is a viral infection affecting approximately 1% of women of childbearing years. Hepatitis C is most commonly acquired following intravenous drug use, but is also more common in some immigrant groups and in some cases has been acquired medically. In 2016, effective treatments for Hepatitis C with cure rates of over 95% became readily available. For this reason, pre pregnancy screening of women for Hepatitis C should be considered so that treatment can be initiated and Hepatitis C cured prior to pregnancy. While the risk of mother-to-child transmission of Hepatitis C is extremely low for most women, treatment prior to pregnancy benefits the infected woman, her baby, and reduces occupational exposure for health workers. Among women already pregnant with Hepatitis C, treatment is not recommended during pregnancy, but treatment following pregnancy and completion of breast feeding should be discussed. Women with Hepatitis C in pregnancy should be managed in a multidisciplinary team with special expertise in infectious disease. Although hepatitis C infection is not a reason not to breastfeed the newborn, when there is cracking or bleeding of the nipples, it is wise to express and discard the milk until any open wounds are healed. Appropriate follow-up should be arranged for both mother and baby where hepatitis C infection is known or suspected.

Recommendation 1	Grade and reference
Although not universally recommended, RANZCOG considers that all pregnant women should be screened for Hepatitis C so that risk stratification can be performed and measures taken to both reduce perinatal transmission and minimise occupational exposure. Knowledge of HCV status allows counselling for women who may be eligible for treatment prior to embarking on a future pregnancy (see section 8).	Consensus-based recommendation
Recommendation 2	Grade and reference
It is recommended that individuals who are HCV positive have a PCR test for HCV RNA, as the risk of perinatal transmission is dependent on the presence of HCV RNA. Liver function tests should be performed at the time of checking HCV RNA status. As HIV co-infection increases the risk of transmission, HIV status should be ascertained if not already performed.	Consensus-based recommendation
Recommendation 3	Grade and reference
Risk of vertical transmission is increased with high viral load, prolonged rupture of membranes and invasive procedures. Where possible, fetal scalp electrodes and fetal scalp sampling should be avoided in women with HCV.	Consensus-based recommendation
Recommendation 4	Grade and reference
Caesarean section is not recommended as a means of reducing perinatal transmission of Hepatitis C	Consensus-based recommendation

Recommendation 5	Grade and reference
As for all blood borne infections, it is recommended to bath the baby to remove any maternal body secretions and blood prior to IM injections e.g. vitamin K.	Consensus-based recommendation
Recommendation 6	Grade and reference
HCV infection is not a contraindication to breastfeeding except in the presence of cracked or bleeding nipples. In this instance, expression and discarding of the milk is advised whilst waiting for healing of the cracked nipple.	Consensus-based recommendation
Recommendation 7	Grade and reference
All infants of HCV positive mothers should be screened following delivery to determine whether they have been infected. Care should be taken to ensure the appropriate interval has passed for the neonate to become PCR+/- antibody positive.	Consensus-based recommendation
Recommendation 8	Grade and reference
<p>Given that antiviral curative treatment for Hepatitis C is now readily available, consideration should be given to screening all women prior to pregnancy so that they are able to make an informed choice regarding treatment prior to embarking on pregnancy. Existing treatments for HCV are not recommended during pregnancy or breast feeding. In particular ribavirin is teratogenic (Category X).</p> <p>For all women and male partners receiving Ribaviran, reliable contraception must be used during treatment and for 6 months after completion of treatment.</p>	Consensus-based recommendation
Recommendation 9	Grade and reference
All medical and para-medical personnel who are parenterally exposed to the blood or other body fluids of HCV carriers should be screened and followed as part of standard occupational health procedures.	Consensus-based recommendation

2. Epidemiology

The incidence of Hepatitis C Virus (HCV) carriage in women of childbearing age is estimated to be 1-2 per cent, but may be as high as 80 per cent in high risk behaviour groups such as injecting drug users and blood product dependent patients (the mean risk of transmission from a needle stick injury is 1.8 per cent, range 0-10 per cent. While the incidence of Hepatitis C is falling, the prevalence is increasing, with the major at-risk groups being; older patients (more commonly immigrants or who have acquired Hepatitis C medically), and younger patients (mostly due to intravenous drug use). While Hepatitis C does not have the same chronic disease burden as other viral infections in pregnancy such as HIV and Hepatitis B, 5% of chronically infected Hepatitis C patients will die of their disease, due to liver failure or hepatocellular carcinoma. Although there is not universal support for Hepatitis C screening in pregnancy¹, RANZCOG considers all women should be screened so that risk stratification (ie HCV RNA status) can be assessed and measures taken to reduce the risk to the woman, her baby and those caring for her.

Recommendation 1	Grade and reference
Although not universally recommended, RANZCOG considers that all pregnant women should be screened for Hepatitis C so that risk stratification can be performed and measures taken to both reduce perinatal transmission and minimise occupational exposure. Knowledge of HCV status allows counselling for women who may be eligible for treatment prior to embarking on a future pregnancy (see section 8).	Consensus-based recommendation

3. Perinatal Transmission of Hepatitis C

Maternal HCV poses a small risk of vertical transmission of HCV to the newborn (approximately 5%), although the risk of vertical transmission is largely confined to those patients with maternal viraemia and/ or HIV co-infection.^{2,3} Only rarely has perinatal transmission been reported from HCV-RNA negative mothers. Among women requiring an invasive procedure such as amniocentesis or chorionic villous sampling for prenatal diagnosis, HCV RNA status should be established prior to the procedure. In HCV-RNA positive women, non-invasive prenatal testing (NIPT) should be offered if this is a suitable alternative.

Recommendation 2	Grade and reference
It is recommended that individuals who are HCV positive have a PCR test for HCV RNA, as the risk of perinatal transmission is dependent on the presence of HCV RNA. Liver function tests should be performed at the time of checking HCV RNA status. As HIV co-infection increases the risk of transmission, HIV status should be ascertained if not already performed.	Consensus-based recommendation

4. Intrapartum care

While transmission may be antenatal, peripartum infection appears to be most common with most neonates taking several weeks to become HCV RNA positive. Fetal scalp electrode placement has been associated with increased transmission rates and should be avoided², where possible.

Caesarean Section is not recommended as a means of reducing perinatal transmission of Hepatitis C.

Recommendation 3	Grade and reference
Risk of vertical transmission is increased with high viral load, prolonged rupture of membranes and invasive procedures. Where possible, fetal scalp electrodes and fetal scalp sampling should be avoided in women with HCV.	Consensus-based recommendation
Recommendation 4	Grade and reference
Caesarean section is not recommended as a means of reducing perinatal transmission of Hepatitis C	Consensus-based recommendation

5. Postpartum care

As per all blood borne viral precautions, the baby should be bathed to remove any maternal body secretions and blood prior to IM injections e.g. vitamin K.

Recommendation 5	Grade and reference
As for all blood borne infections, it is recommended to bath the baby to remove any maternal body secretions and blood prior to IM injections e.g. vitamin K.	Consensus-based recommendation

6. Breast Feeding

HCV is present in low concentrations in colostrum but not detected in breast milk. Breast feeding is not associated with transmission, and so HCV is not considered a contraindication to breast feeding. However, given the higher presence of HCV in blood, it is suggested that where nipple trauma is present, milk is expressed and discarded until healing has occurred.

Recommendation 6	Grade and reference
HCV infection is not a contraindication to breastfeeding except in the presence of cracked or bleeding nipples. In this instance, expression and discarding of the milk is advised whilst waiting for healing of the cracked nipple.	Consensus-based recommendation

7. Postnatal follow up

Follow up of children for evidence of perinatal transmission is necessary, and consideration should be given to postpartum treatment of women after breast feeding has completed (see section 8.)

Recommendation 7	Grade and reference
All infants of HCV positive mothers should be screened following delivery to determine whether they have been infected. Care should be taken to ensure the appropriate interval has passed for the neonate to become PCR +/- antibody positive.	Consensus-based recommendation

8. Treatment of Hepatitis C and the place of pre pregnancy screening

Treatments for Hepatitis C that can achieve a sustained viral response (SVR) have become readily available in 2016. A sustained viral response at 12 weeks post treatment amounts to cure, and produces hepatic histological improvement and lifelong health advantage. For this reason, all high risk individuals should be screened, ie intravenous drug users, immigrants from high prevalence countries, sex workers, sexual partner HCV positive, incarceration, Hepatitis B or Hepatitis C co-infection.

Consideration should be given to screening all women pre pregnancy so that they are able to make an informed choice regarding treatment prior to embarking on pregnancy. Existing treatments for HCV are not recommended during pregnancy or breast feeding. In particular ribavirin is teratogenic (Category X). For all women and male partner receiving Ribaviran, reliable contraception must be used during treatment and for 6 months after completion of treatment.

Recommendation 8	Grade and reference
Given that antiviral curative treatment for Hepatitis C is now readily available, consideration should be given to screening all women prior to pregnancy so that they are able to make an informed choice regarding treatment prior to embarking on pregnancy. Existing treatments for HCV are not recommended during pregnancy or breast feeding . In particular ribavirin is teratogenic (Category X). For all women and male partners receiving Ribaviran, reliable contraception must be used during treatment and for 6 months after completion of treatment.	Consensus-based recommendation

The risk of HCV infection from percutaneous needle stick injury is 1-3% and appears to be confined to those where the patient is HCV PCR positive. The risk from blood contact with mucous membranes appears very low. All medical and para-medical personnel who are parenterally exposed to the blood or other body fluids of HCV carriers should be screened and followed as part of standard occupational health procedures.

Recommendation 9	Grade and reference
All medical and para-medical personnel who are parenterally exposed to the blood or other body fluids of HCV carriers should be screened and followed as part of standard occupational health procedures.	Consensus-based recommendation

9. References

1. Prasad M. Hepatitis C Virus Screening in Pregnancy: Is It Time to Change Our Practice? Obstetrics and gynaecology. 2016.
2. Mast EE HL, Seto DS, Nolte FS, Nainan OV, Wurtzel H, Alter MJ. Risk factors for perinatal transmission of hepatitis C virus (HCV) and the natural history of HCV infection acquired in infancy. The Journal of infectious diseases. 2005 Dec 1;192(11):1880-9.
3. Benova L MY, Calvert C, Abu-Raddad LJ. Vertical transmission of hepatitis C virus: systematic review and meta-analysis. Clinical Infectious Diseases: an official publication of the Infectious Diseases Society of America. 2014 Sep 15;59(6):765-73.

10. Links to other College Statements

[Guidelines for consent and the provision of information regarding proposed treatment \(C-Gen 02\)](#)

[Pre-pregnancy counselling \(C-Obs 03a\)](#)

[Routine Antenatal Assessment in the absence of pregnancy complications \(C-Obs 03b\) Evidence-based](#)

[Medicine, Obstetrics and Gynaecology \(C-Gen 15\)](#)

11. Patient information

A range of RANZCOG patient information pamphlets can be ordered via:

<https://www.ranzcog.edu.au/Womens-Health/Patient-Information-Guides/Patient-Information-Pamphlets>

12. Other suggested reading

1. The Department of Health and Ageing. The Australian Immunisation Handbook, 10th Edition, 2013. <http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home>
2. Australasian Society for Infectious Diseases 'Management of Perinatal Infections' 2014. <https://www.asid.net.au/documents/item/368>
3. Hardikar W, Elliott EJ, Jones CA. The silent infection: should we be testing for perinatal hepatitis C and if so, how? Med J Aust 2006; 184: 54-5.

Appendices

Appendix A Women's Health Committee Membership

Name	Position on Committee
Professor Stephen Robson	Chair and Board Member
Dr James Harvey	Deputy Chair and Councillor
Associate Professor Anusch Yazdani	Member and Councillor
Associate Professor Ian Pettigrew	Member and Councillor
Dr Ian Page	Member and Councillor
Professor Yee Leung	Member of EAC Committee
Professor Sue Walker	General Member
Dr Lisa Hui	General Member
Dr Joseph Sgroi	General Member
Dr Marilyn Clarke	General Member
Dr Donald Clark	General Member
Associate Professor Janet Vaughan	General Member and Councillor
Dr Benjamin Bopp	General Member
Associate Professor Kirsten Black	General Member
Dr Jacqueline Boyle	Chair of the ATSIWHC
Dr Martin Byrne	GPOAC representative
Ms Catherine Whitby	Community representative
Ms Sherryn Elworthy	Midwifery representative
Dr Michelle Proud	Trainee representative

Appendix B Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was originally developed in June 1998 and was most recently reviewed in July 2013. The Women's Health Committee carried out the following steps in reviewing this statement:

- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the July 2013 face-to-face committee meeting, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise. Recommendations were graded as set out below in Appendix B part ii).

ii. Grading of recommendations

Each recommendation in this College statement is given an overall grade as per the table below, based on the National Health and Medical Research Council (NHMRC) Levels of Evidence and Grades of Recommendations for Developers of Guidelines. Where no robust evidence was available but there was sufficient consensus within the Women's Health Committee, consensus-based recommendations were developed or existing ones updated and are identifiable as such. Consensus-based recommendations were agreed to by the entire committee. Good Practice Notes are highlighted throughout and provide

practical guidance to facilitate implementation. These were also developed through consensus of the entire committee.

Recommendation category		Description
Evidence-based	A	Body of evidence can be trusted to guide practice
	B	Body of evidence can be trusted to guide practice in most situations
	C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
	D	The body of evidence is weak and the recommendation must be applied with caution
Consensus-based		Recommendation based on clinical opinion and expertise as insufficient evidence available
Good Practice Note		Practical advice and information based on clinical opinion and expertise

Appendix C Full Disclaimer

This information is intended to provide general advice to practitioners, and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient.

This information has been prepared having regard to general circumstances. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual patient and the particular circumstances of each case.

This information has been prepared having regard to the information available at the time of its preparation, and each practitioner should have regard to relevant information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available.