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Acknowledgement of  
Country

Artwork by Tan Martin, Aboriginal Midwife  
and Researcher

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## Implementing the Congenital Cytomegalovirus Prevention Guidelines

Kath Swinburn, Pam Rogers, A/Prof Hayley Smithers-Sheedy, Dr Tanya Tripathi, Dr Natalia Rode, Emma Waight, Dr Antonia Shand, Prof Bill Rawlinson, A/Prof Valerie Sung, Prof Lisa Hui



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What is  
Cytomegalovirus?



**Common herpesvirus**

**Endemic – largely asymptomatic**

**Transmitted through person to  
person contact with infected  
secretions**

**Can be transmitted from woman to  
fetus during pregnancy**

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- **Leading acquired cause of sensorineural deafness and developmental disabilities**
- **Birth prevalence in high income countries 0.5%**
  - 10% of Australian children with cerebral palsy have evidence of cCMV
  - No antenatal or newborn screening in Australia
  - Prevalence of CMV in Australia estimates only based on international research

## Congenital CMV



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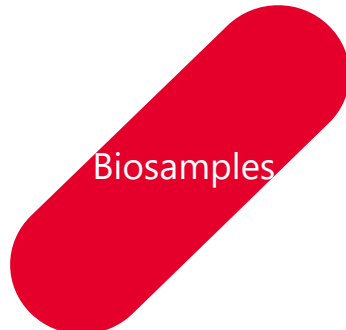
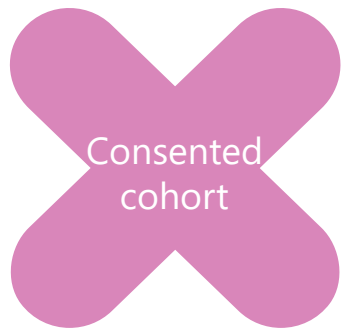
## Screen cCMV Study: Determining the population prevalence of congenital CMV through GenV (Generation Victoria)

A statewide cohort open to all babies born between Oct 2021-Oct 2023 and their parents, living in Victoria



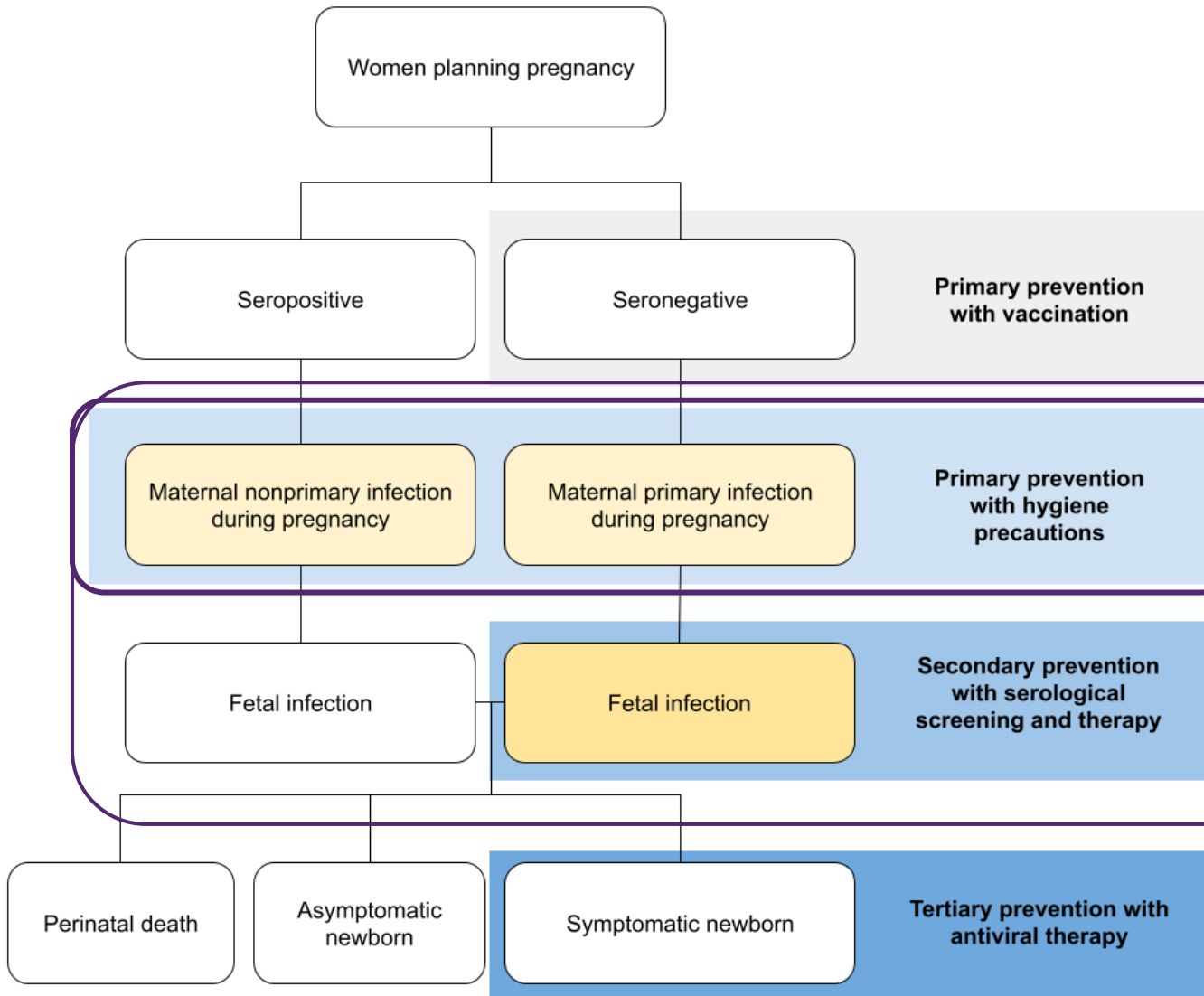
Screen cCMV Project - Murdoch Children's Research Institute

[www.mcric.edu.au](http://www.mcric.edu.au)

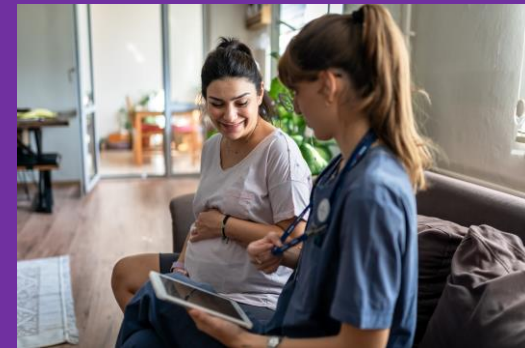


Research platform as a service

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**Antenatal strategies to reduce the risk of congenital CMV**



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## Congenital cytomegalovirus infection in pregnancy and the neonate: consensus recommendations for prevention, diagnosis, and therapy

William D Rawlinson, Suresh B Boppana, Karen B Fowler, David W Kimberlin, Tiziana Lazzarotto, Sophie Alain, Kate Daly, Sara Doutré, Laura Gibson, Michelle L Giles, Janelle Greenlee, Stuart T Hamilton, Gail J Harrison, Lisa Hui, Cheryl A Jones, Pamela Palasanthiran, Mark R Schleiss, Antonia W Shand, Wendy J van Zuylen

## Prevention of congenital cytomegalovirus (CMV) infection

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](#).

Disclosure statements have been received from all members of this committee.

The Committee acknowledges contributing authorship in [Appendix B](#).

**Objectives:** To provide guidance for maternity care providers and the community on the prevention of maternal cytomegalovirus (CMV) infection during pregnancy in order to reduce mother to child transmission (MTCT) of virus, fetal infection and clinical sequelae (symptomatic congenital CMV); and to provide a general overview of the diagnosis and management of congenital CMV.

**Outcomes:** Improved awareness about CMV prevention among maternity health care providers and improved routine provision of patient education on hygiene measures which have been shown to reduce CMV transmission during pregnancy.

1 Australian Pregnancy Care Guidelines 3



## POLICY STRATEGIES

**These guidelines recommend all pregnant woman and women planning a pregnancy should be provided with information about CMV infection and preventive hygiene strategies to reduce their risk of infection.**

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Only 20% of pregnant women know about CMV  
(Lazzaro 2019)

Only 10% of maternity health professionals routinely discuss CMV prevention with women in their care  
(Shand 2018)

## 01. Wash with care

Wash hands carefully, especially after changing nappies and wiping noses.



## 02. Kiss with care

While you are pregnant, avoid kissing toddlers on the lips.  
Kiss on the forehead instead.



## 03. Don't share

Don't share food, cups or cutlery with young children and avoid putting your child's dummy/toothbrush in your mouth.



### Wash with care

Washing your hands for at least 15 seconds, especially after contact with urine or saliva of young children during activities like changing nappies, blowing noses, or handling children's toys, dummies.



### Kiss with care

Avoiding contact with saliva when kissing a child – Instead, try a kiss on the forehead.



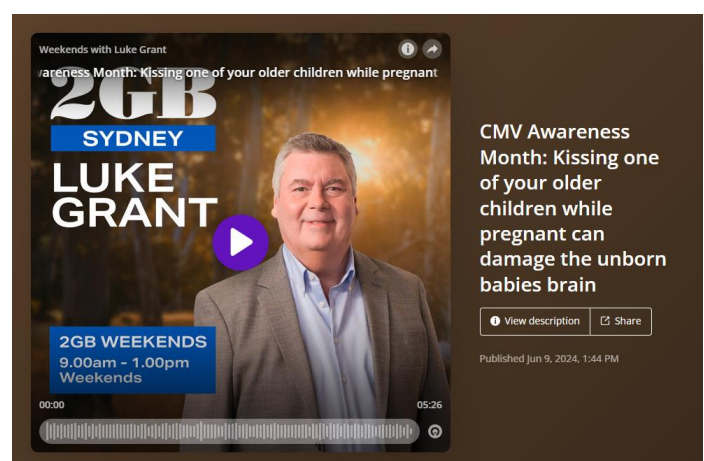
### Don't share

Not sharing food, drinks, cutlery, toothbrushes or dummies with young children.

2024 Systematic review:  
Rodríguez-Muñoz et al.  
BMC Pregnancy Childbirth 2024

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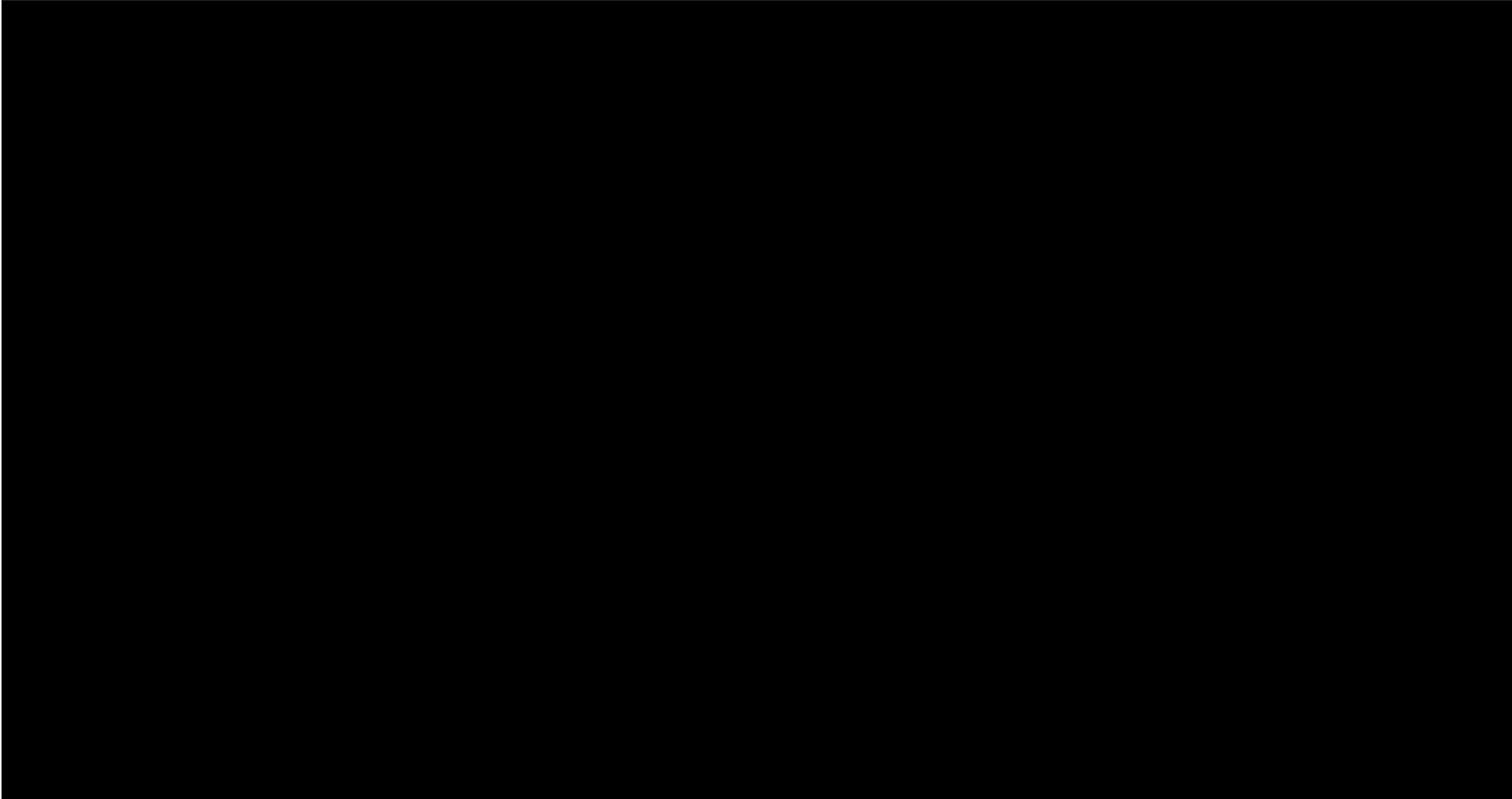
## CMV awareness media campaign



### COMMUNITY LEVEL STRATEGIES



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## Free CMV Information Resources

**Prevention is in your hands.**  
Reduce the risk of CMV infection during pregnancy

**Cerebral Palsy Alliance**

**How to reduce your risk of CMV in pregnancy**

- Wash with care**  
Wash hands thoroughly, especially after changing nappies or after toilet.
- Kiss with care**  
Avoid kissing your newborn on the lips. If you do, only kiss on the cheek.
- Don't share**  
Don't share toys, saliva or eating utensils with your newborn. Avoid sharing your saliva with your newborn.

CMV is the most common virus passed from mother to baby during pregnancy. It is a known cause of deafness and cerebral palsy. Take these three simple steps to reduce your risk of CMV infection during pregnancy. Search **CMV Prevention in Pregnancy** to learn more.  
[cerebralspalsy.org.au/cm](http://cerebralspalsy.org.au/cm)



**Postnatal care for babies born with congenital cytomegalovirus (CMV)**

Congratulations on the birth of your baby! We understand that you may have lots of questions about being a parent, especially if your child has been diagnosed with congenital cytomegalovirus (CMV). We want to assure you that there is support to help your baby thrive.

**What is congenital CMV?**  
Cytomegalovirus (CMV) is a virus infection that can be passed from a pregnant woman to her developing baby during pregnancy. Congenital CMV means that your baby had the virus at birth. It is one of the most common congenital infections, occurring in about 1 in 200 babies. Most babies with congenital CMV are completely well, but some may have health issues that are present at birth or appear later in early childhood.

**How is congenital CMV diagnosed?**  
Congenital CMV is diagnosed if the virus is detected in the baby's urine, saliva or blood within the first three weeks of life. If a baby tests positive for CMV after three weeks of life, it might mean that the baby caught CMV after birth, not before birth. It is only through a CMV test after birth, if usually done, that can help confirm the baby.

**Can I still breastfeed if my baby has congenital CMV?**  
Yes, breastfeeding is still recommended for babies with congenital CMV. The World Health Organisation recommends babies breastfed for the first six months of life. Breastfeeding provides many benefits for your growing child including improved immune, cognitive and psychomotor development. It can protect your baby against a range of infections and helps your baby build a strong immune system. Breastfeeding also has many health benefits for you including reduced risk of breast cancer, ovarian cancer and osteoporosis as well as others. Ask your health care professional if you have questions.

**Cerebral Palsy Alliance**

**CMV is the most common infection passed from mothers to babies during pregnancy.**

Every year in Australia an estimated 2000 babies are born with CMV. Of these around 400 will experience long-term disabilities, including hearing loss.

**Want more information?**  
Australian Government: Department of Health  
Pregnancy Care Guidelines  
[health.gov.au/resources/pregnancy-care-guidelines/](http://health.gov.au/resources/pregnancy-care-guidelines/)

Congenital CMV  
Association of Australia  
[cmv.org.au](http://cmv.org.au)

Cerebral Palsy Alliance  
[cerebralspalsy.org.au/cm/](http://cerebralspalsy.org.au/cm/)

NHMRC  
Staying Healthy – Preventing infectious diseases in early childhood education and care services (5th Edition)

Virology Research Laboratories,  
POW Hospital, UNSW  
[virologyresearch.unsw.edu.au](http://virologyresearch.unsw.edu.au)

Scan here for more information about CMV or to order more CMV pamphlets.

An initiative of  
**Cerebral Palsy Alliance** **Midwives** **CMV AUSTRALIA**

**Reduce the risk of CMV in pregnancy**

**What is CMV?**  
Cytomegalovirus (CMV) infection

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**Wash with care  
Kiss with care  
Don't share**

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**Congenital Cytomegalovirus Network Bulletin**

**Cerebral Palsy Alliance**

**CMV AUSTRALIA**

# COMMUNITY LEVEL STRATEGIES

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## Free online CMV education for midwives, GPs and O&Gs

The screenshot shows a course page for 'Infections in Pregnancy - What's new in congenital CMV and syphilis'. The course is 15% complete. The left sidebar lists lessons: Lesson 3 (Providing information about CMV), Lesson 4 (Testing for CMV), Lesson 5 (Onward Referral), Lesson 6 (Why do we need an update on syphilis), Lesson 7 (Syphilis 'The great imitator'), Lesson 8 (Prevention of congenital syphilis), and Lesson 9 (Testing for syphilis). The main content area features a video player with a play button and the title 'What's new in congenital CMV and syphilis' by Dr Natalia Rode. The video player also displays the course title: 'Welcome to the Infections in Pregnancy update – What's new in congenital CMV and syphilis?'.

### Congenital CMV: Prevention is in your hands



This free course is for midwives and midwifery students as well as other maternity health care professionals. The course provides information about CMV and congenital CMV, which is CMV infection passed from a mother to baby during pregnancy. The course aims to update you on how congenital CMV can adversely affect babies, and prevention strategies for reducing the risk of infection during pregnancy.

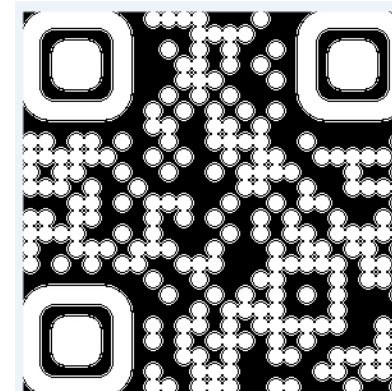
- What CMV is and how it is spread.
- What cCMV is and how it can affect babies.
- Current recommendations for serological testing of maternal CMV.
- Recommended prevention strategies for reducing the risk of CMV infection and transmission during pregnancy.
- The role of midwives in counselling pregnant women about CMV.
- Current CMV education resources.

This course is free to access for all.

Your price: 0.00

Quantity:

[Add to Cart](#)



### ESE-CMV study

Education, Serology & Evaluation  
to prevent congenital cytomegalovirus

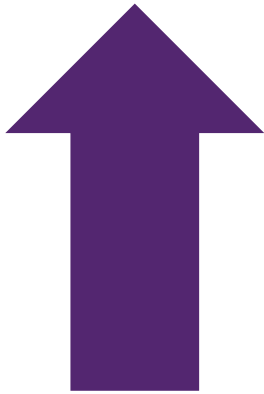
<https://on.praxhub.com/unimelb/infections-in-pregnancy>

INTERVENTION LEVEL STRATEG

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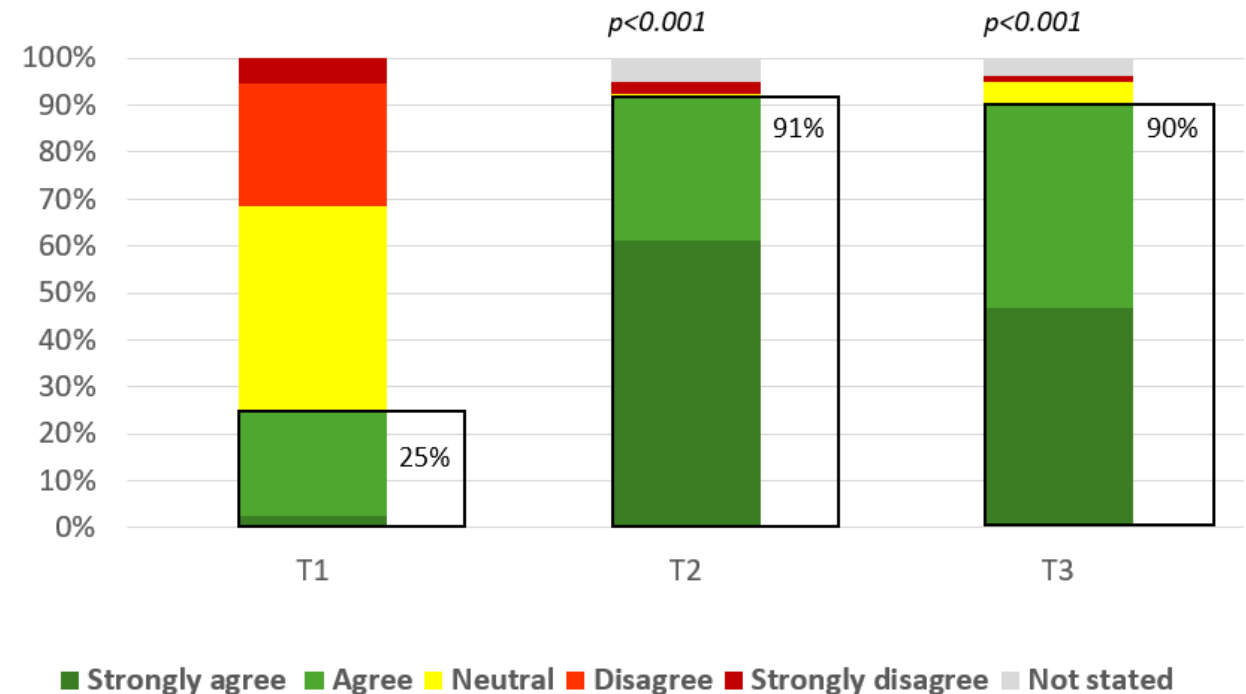
## Evaluation of midwives and GP eLearning courses

CMV knowledge scores



INTERVENTION LEVEL STRATEGIES

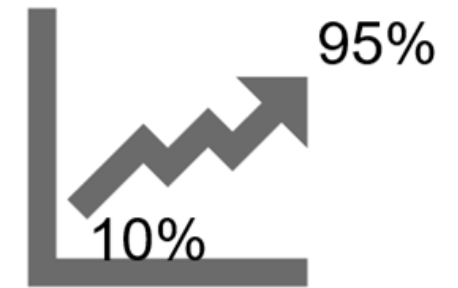
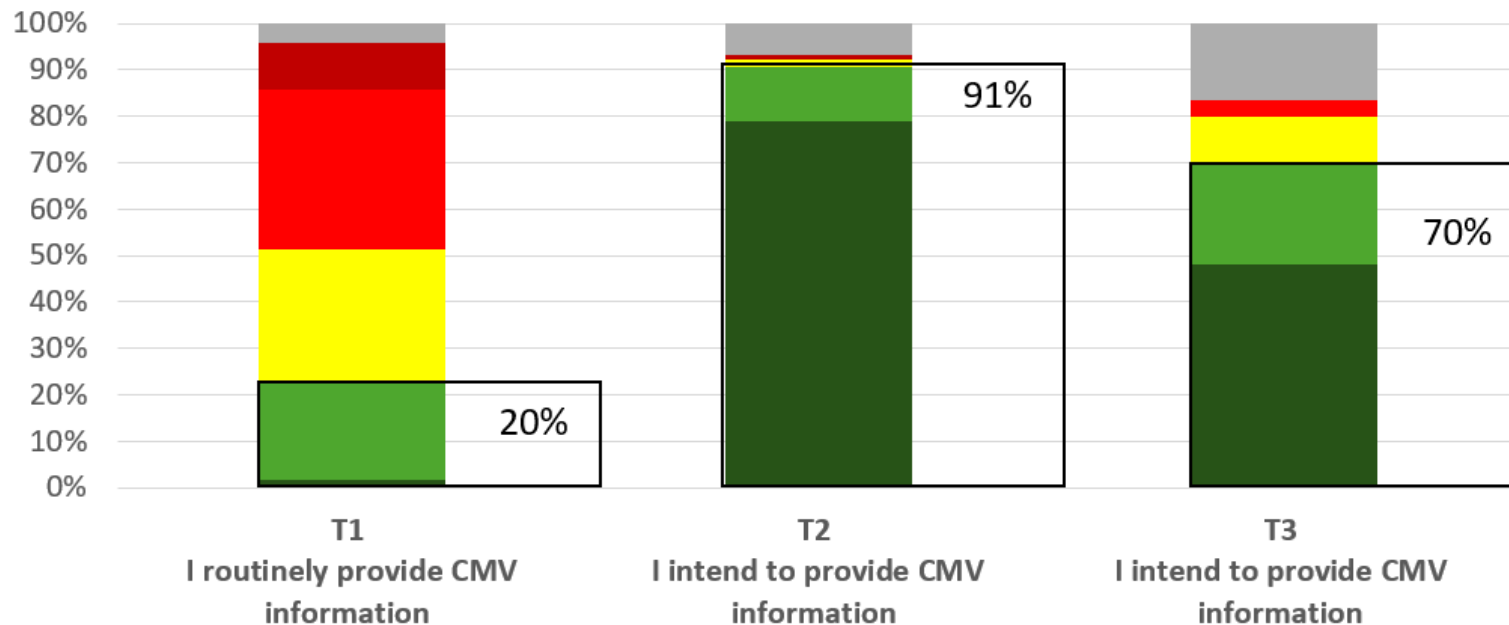
'I feel confident giving advice & answering questions about CMV'



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## Evaluation of GP eLearning course on CMV

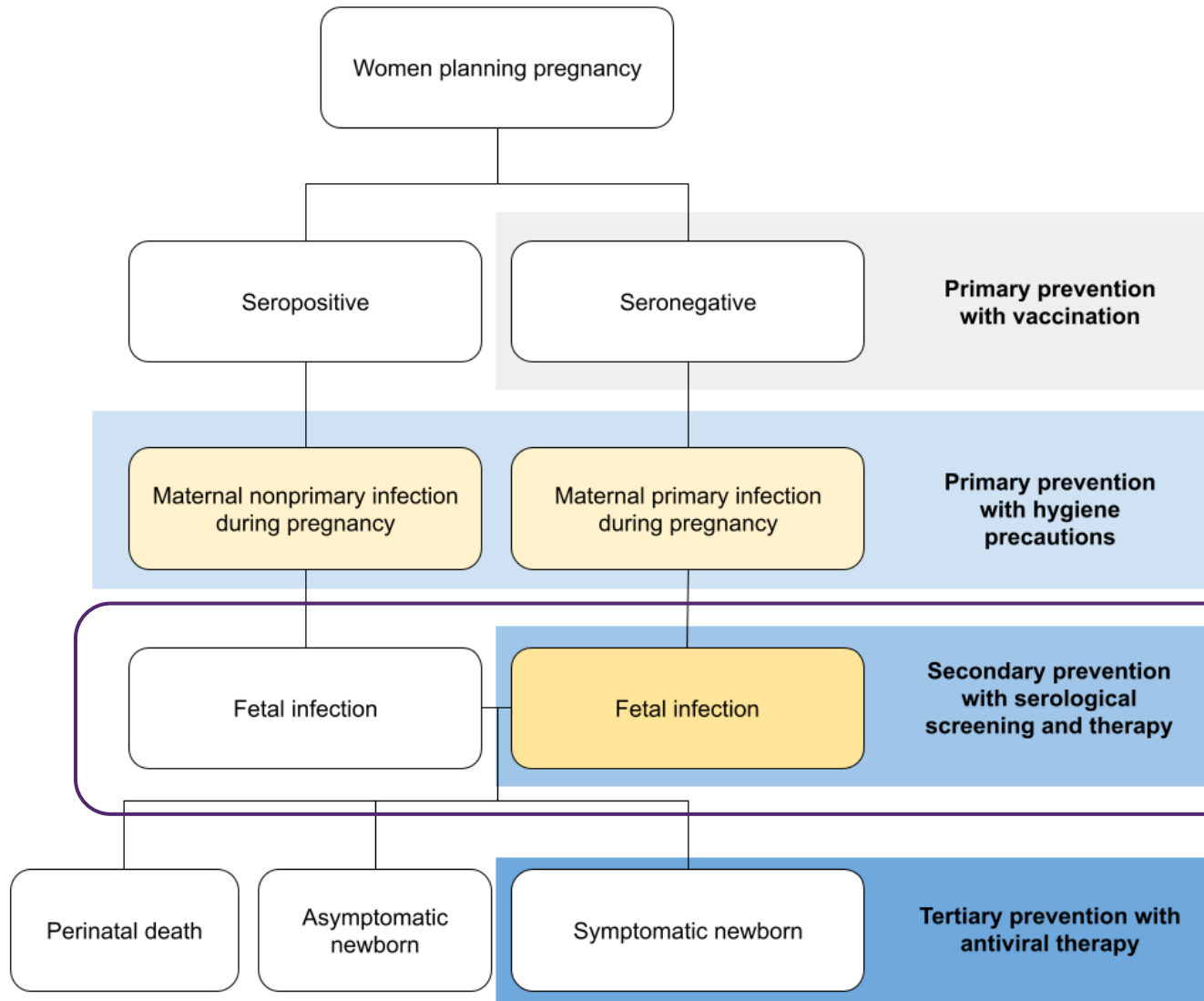
**'I routinely provide vs intend to routinely provide CMV information to pregnant women/those planning a pregnancy'**



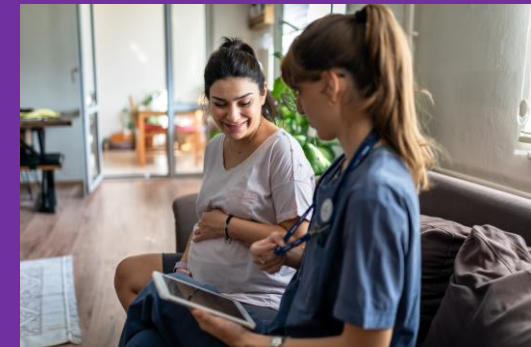
Awareness of CMV resources  
 $p < 0.001$

■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Strongly disagree ■ Not stated/not applicable

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Antenatal interventions



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## Maternal valaciclovir



- Meta-analysis of 527 patients
- High dose valaciclovir (8g/day) after periconception or first trimester primary CMV infection significantly reduces fetal infection and symptomatic cCMV disease
- Early treatment = more effective
- Low chance of severe maternal side effects

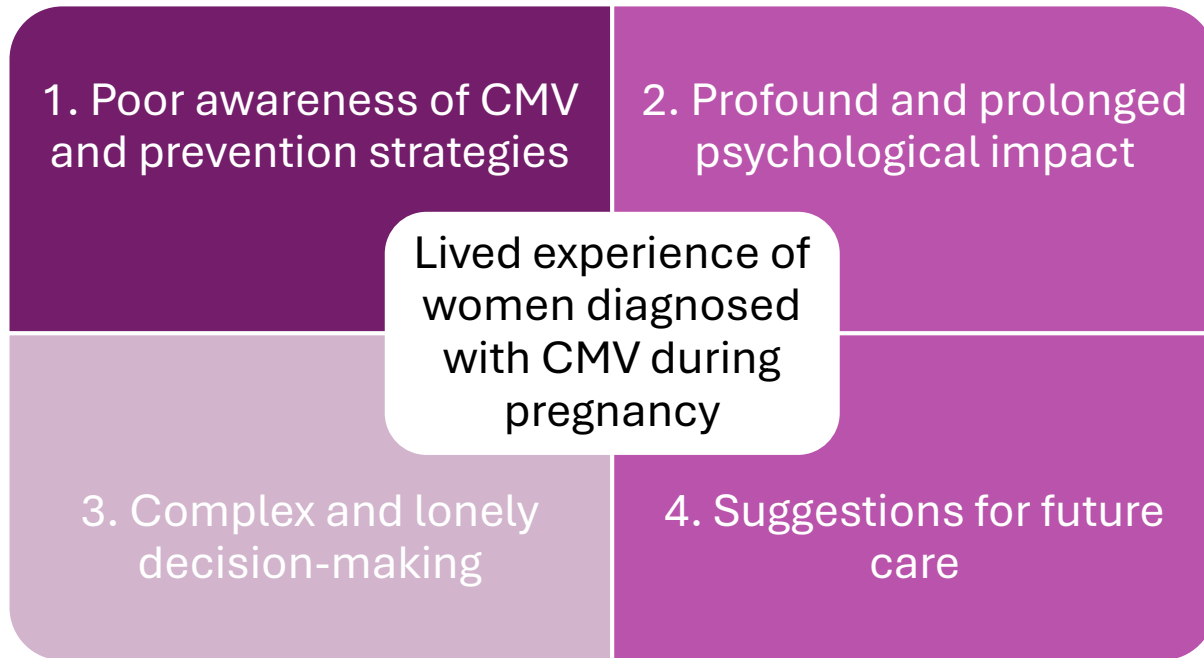
**Chatzakis C, et al. doi: 10.1016/j.ajog.2023.07.022.**



- CMV serology in the first trimester of pregnancy as early as possible. Retest every 4 weeks until 14-16 weeks (Grade A)
- Oral valaciclovir (8g/day) for maternal primary infection in the periconceptional period or in the first trimester of pregnancy, as early as possible after the diagnosis and until result of CMV PCR in amniocentesis (Grade A)

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“The anxiety coming up to every scan – it destroyed me”



## Key messages

Diagnosis of CMV infection causes significant and prolonged psychological impact and is influenced by:

- prior awareness of CMV
- experience with their healthcare provider
- uncertainty of prognosis and outcomes

## Directions for the future

- raise public awareness of CMV
- enhance healthcare professionals' knowledge
- more research

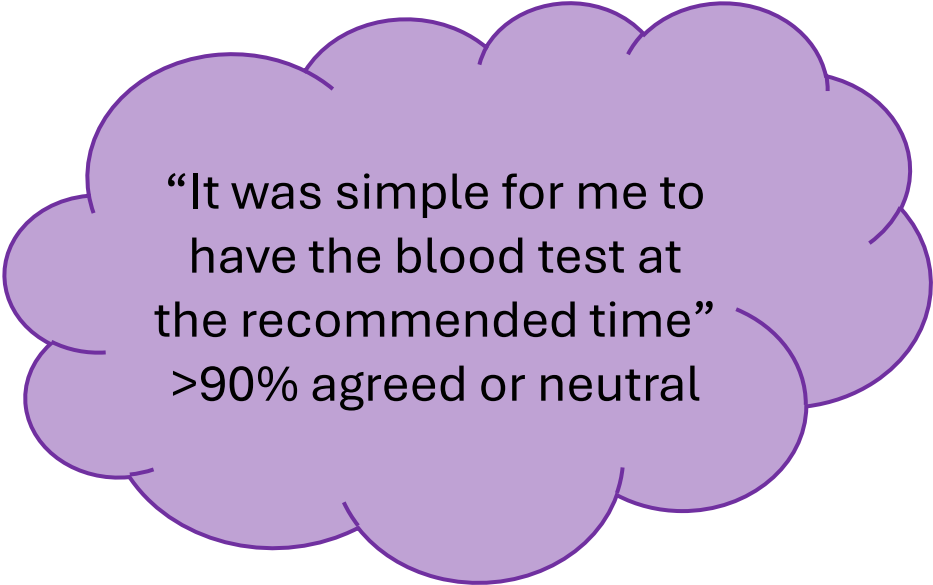
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## Pilot serological screening study

46 women screened for CMV during first trimester

Over 90% were satisfied with

- Education provided about CMV
- Overall participation in screening



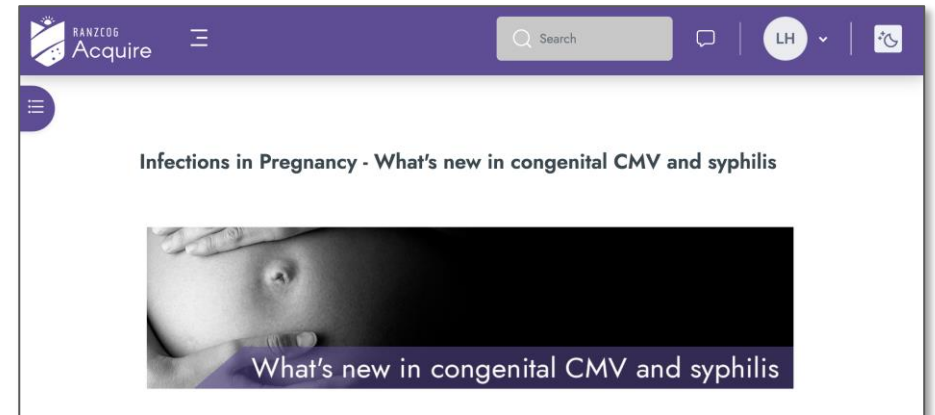
“It was simple for me to have the blood test at the recommended time”  
>90% agreed or neutral

Future implications: Developmental follow up?

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## Next steps

- Health economics assessment
  - Survey on GP perspectives on CMV screening in pregnancy
  - Engaging the RCPA regarding clinical guidance on serology reports
  - CMV research priority setting project with consumers, clinicians, researchers
  - Ongoing public awareness work
  - cCMV symposium in Melbourne June 2025
- inform RANZCOG CMV evidence-based clinical guideline in 2025



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## Collaboration



Prof Nadia Badawi  
Mr Rob White  
Prof Cheryl Jones  
A/Prof Valerie Sung  
Prof Lisa Hui  
Dr Antonia Shand  
Mrs Emma Waight  
Mrs Kath Swinburn  
A/Prof Hayley Smithers-Sheedy  
Prof William Rawlinson  
Prof Pamela Palasanthiran  
A/Prof Phil Britton  
Prof Asha Bowen  
Prof Julia Clark  
Dr Natalia Rode  
Dr Amanda Lazzaro  
Dr Tanta Tripathi  
A/Prof Natasha Holmes  
Prof Sarah McIntyre

Dr Hugh Stump  
A/Prof Holly Teagle  
Prof Rick Leventer  
Dr John Keogh  
CMV Association – Kate Russ-Daly  
and Hanako Stump  
Prof Greg Leigh – NextSense  
Deafness Forum Australia  
Australian Cerebral Palsy Register Group  
Congenital CMV Register Group  
Australian College of Midwives  
Royal Australian College of General  
Practitioners  
Royal Australian & New Zealand College of  
Obstetricians & Gynaecologists

