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Review article

# Prevention and management of genital herpes simplex infection during pregnancy and delivery: Guidelines from the French College of Gynaecologists and Obstetricians (CNGOF)

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ABSTRACT

*Objective:* Identify measures to diagnose, prevent, and treat genital herpes infection during pregnancy and childbirth as well as neonatal herpes infection.
*Materials and methods:* Bibliographic search from the Medline and Cochrane Library databases and review of international clinical practice guidelines.
*Results:* Genital herpes lesions are most often due to HSV-2 (LE2). The risk of HSV seroconversion during pregnancy is 1–5% (LE2). Genital herpes lesions during pregnancy in a woman with a history of genital herpes is a recurrence. In this situation, there is no need for virologic confirmation (Grade B). In pregnant women with genital lesions who report they have not previously had genital herpes, virological confirmation by PCR and identifying the specific IgG type is necessary (professional consensus). A first episode of genital herpes during pregnancy should be treated with aciclovir (200 mg 5 times daily) or valaciclovir (1000 mg twice daily) for 5–10 days (Grade C), and recurrent herpes during pregnancy with aciclovir (200 mg 5 times daily) or valaciclovir (500 mg twice daily) (Grade C). The risk of neonatal herpes is estimated at between 25% and 44% if a non primary and primary first genital herpes episode is ongoing at delivery (LE2) and 1% for a recurrence (LE3). Antiviral prophylaxis should be offered to women with either a first or recurrent episode of genital herpes during pregnancy from 36 weeks of gestation until delivery (Grade B). Routine prophylaxis is not recommended for women with a history of genital herpes but no recurrence during pregnancy (professional consensus). A cesarean delivery is recommended if a first episode of genital herpes is suspected (or confirmed) at the onset of labor (Grade B) or if it occured less than 6 weeks before delivery (professional consensus) or in the event of premature rupture of the membranes at term. When a recurrence of genital herpes is underway at the onset of labor, cesarean delivery is most likely to be considered when the membranes are intact and vaginal delivery in cases of prolonged rupture of membranes (professional consensus). Neonatal herpes is rare and mainly due to HSV-1 (LE3). In most cases of neonatal herpes, mothers have no history of genital herpes (LE3). When neonatal herpes is suspected, various samples (blood and cerebrospinal fluid) for HSV PCR must be taken to confirm the diagnosis (professional consensus). Any newborn with suspected neonatal herpes should be treated with intravenous acyclovir (20 mg/kg 3 times daily) (grade A) before the PCR results are available (professional consensus). The duration of the treatment depends on the clinical form (professional consensus)

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*Conclusion:* There is no formal evidence that it is possible to reduce the risk of neonatal herpes in genital herpes during pregnancy. However, appropriate care can reduce the symptoms associated with herpes and the risk of recurrence at term, as well as cesarean rate because of herpes lesions.



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## Introduction and methods [1–3]

The sponsor (the French College of Gynecologists and Obstetricians (CNGOF)) appointed a steering committee (Appendix A) to define the exact questions to be put to the experts, to choose them, follow their work and draft the synthesis of recommendations resulting from this work [1]. The experts analyzed the scientific literature on the subject to answer the questions raised. A literature review identified the relevant articles through mid-2017 by a search of the MEDLINE database and the Cochrane Library. The search was restricted to articles published in English and French [2,3]. Priority was given to articles reporting results of original research, although review articles and commentaries were also consulted. Guidelines published by organizations or institutions such as the American College of Obstetricians and Gynecologists (ACOG) [4], the Royal College of Obstetricians and Gynaecologists (RCOG) [5], the Canadian Society of Gynaecology and Obstetric (SOGC) [6], the Australasian Society for Infectious Diseases (ASID) [7], the Canadian Paediatric Society (CPS), the US Centers for Disease Control and Prevention (CDC) [8], the government of South Australia Maternal, Obstetrics and Gynaecology Community of Practice (South Australia) [9], the European region of the International Union Against Sexually Transmitted Infections (IUSTI) [10], and the Canadian Paediatric Society [11]. Additional studies were located by reviewing bibliographies of identified articles. For each question, each overview of validated scientific data was assigned a level of evidence based on the quality of its data, in accordance with the framework defined by the HAS (French Health Authority) [3], summarized below.

### *Quality of evidence assessment*

LE1: very powerful randomized comparative trials, meta-analyses of randomized comparative trials;

LE2: not very powerful randomized trials, well-run non-randomized comparative studies, cohort studies;

LE3: case-control studies;

LE4: non-randomized comparative studies with notable biases, retrospective studies, cross-sectional studies, and case series.

A synthesis of recommendations was drafted by the organizing committee based on the replies given by the expert authors. Each recommendation for practice was allocated a grade, defined by the HAS as follows:

### *Classification of recommendations*

Grade A: Recommendations are based on good and consistent scientific evidence

Grade B: Recommendations are based on limited or inconsistent scientific evidence

Grade C: Recommendations are based primarily on consensus and expert opinion

Professional consensus: In the absence of any conclusive scientific evidence, some practices have nevertheless been recommended on the basis of agreement between the members of the working group (professional consensus).

All texts were reviewed by persons not involved in the work, i.e., practitioners in the various specialties (Appendix A) concerned and working in different situations (public, private, university, or non-university establishments). Once the review was completed, changes were made, if appropriate, considering the assessment of the quality of the evidence.

The original long texts in French are cited [12–16], but their individual references are not included here in view of the enormous space they would occupy in this article intended to summarize the guidelines.

## Definitions [12]

The different stages of the history of a herpes infection are defined virologically and clinically.

Virologically, seroconversion corresponds to the presence of G immunoglobulins (IgG) in a patient who previously had none.

Primary and non-primary infections are defined as follows:

*Primary infection:*

The first episode of a genital herpes (Herpes Simplex Virus 1 (HSV-1) or Herpes Simplex Virus 2 (HSV-2)) in a patient who has never previously had herpes, regardless of the site.

*Non-primary infection*:

The first episode of HSV-1 genital herpes in a patient who has already had an HSV-2 infection or

The first episode of HSV-2 genital herpes in a patient who has already had an HSV-1 infection.

These stages differ in terms of viral shedding and recurrence.

*Asymptomatic viral shedding*: the detection of HSV-1 or HSV-2 in the absence of functional signs or lesions visible to either the patient or the doctor.