

Researchers improve identification of women at high risk of pre-eclampsia

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Researchers have developed a new tool that will improve how clinicians can identify women at high risk of developing pre-eclampsia, and who should take acetylsalicylic acid, also known as Aspirin, after 12 weeks of pregnancy.

Clinical practice guidelines recommend that women at [high risk](#) take low-dose (baby) ASA daily starting at 12 to 20 weeks of pregnancy.

A meta-analysis, published today in *The BMJ* identified several risk factors that alone, or in combination, provide a clear, concise and evidence-based approach to identify these women, using routinely collected clinical information.

Just as importantly, even though ASA is safe in pregnancy, the tool helps distinguish women who are unlikely to benefit from ASA therapy, said lead author Dr. Joel Ray of St. Michael's Hospital.

Pre-eclampsia affects approximately three per cent of women, and is characterized by onset of elevated blood pressure in later pregnancy. It can cause a woman to seize or have a stroke or kidney failure, and put fetuses at risk of premature birth and poor growth.

Dr. Ray, a physician and researcher at the hospital's Li Ka Shing Knowledge Institute, said the new study started with the idea that a woman who has a seven to 10 per cent or higher chance of developing pre-eclampsia is the right candidate for ASA therapy prevention. Next, the researchers examined large cohort studies with at least 1,000 [women](#) each and pooled the results to determine which individual risk factors pass that threshold.

Some risk factors identified are strong enough that a woman should likely be started on ASA when she has only one of them. Those include having had pre-eclampsia in a previous pregnancy, or diabetes or chronic hypertension prior to the current pregnancy. For example, having chronic

hypertension alone produces an absolute risk of 16 per cent of developing pre-eclampsia, compared to a risk of three per cent in the absence of [chronic hypertension](#) or other risk factors.

However, some risk factors are not strong enough on their own, so a woman needs to have two or three of them to warrant being started on ASA. For example, a woman who has [chronic kidney disease](#) has about a six per cent chance of developing pre-eclampsia, which is probably not enough on its own. Among the list requiring two or more risk factors are a prior stillbirth or separation of the placenta from the wall of the uterus, or, in the current pregnancy, recognized chronic kidney disease, twins or triplets, lupus, being pregnant for the first time, or a mom's age over 40 years.

"We can now identify the most influential clinical factors for pre-eclampsia, none of which require special testing, and all are currently collected by a midwife, obstetrician, family doctor or nurse practitioner at a woman's routine [pregnancy](#) visit," Dr. Ray said. "While ASA may reduce the risk of pre-eclampsia, we really want to ensure that only a [woman](#) truly at high risk goes on ASA, while making it very easy for any clinician to identify that person."

The meta-analysis looked at 92 cohort studies involving more than 25 million pregnancies, and provides an unprecedented understanding of common [risk factors](#) for pre-eclampsia.

Provided by St. Michael's Hospital

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