Strenuous exercise seems unlikely to prolong labour or boost risk of premature birth
Smartphone app could be used to test for potentially fatal irregular heart rate

BRITISH JOURNAL OF SPORTS MEDICINE

Strenuous exercise is unlikely to prolong labour or boost risk of premature birth

But overall quality of evidence for impact of exercise during pregnancy not strong

Strenuous exercise during pregnancy is unlikely to prolong labour or boost the risk of premature birth, says a consensus statement from the International Olympic Committee (IOC), published online in the ***British Journal of Sports Medicine.***

But the overall quality of the available evidence on the impact of intense exercise is not strong, with few studies carried out in elite athletes, the statement warns.

The statement is the second in a series of five issued by the IOC on exercise and pregnancy, including in elite athletes. It draws on a systematic review of the available published evidence, presented by an international panel of experts at a three day meeting in Lausanne, Switzerland, last September.

The statement focuses on the potential effects of strenuous exercise on both mother and child in the periods immediately before and after birth, in bid to address some of the prevailing concerns.

These include fears that high intensity exercise and weight training may weaken the blood supply to the developing fetus, which could potentially heighten the risk of miscarriage, or that it may curb the level of nutrients the fetus receives, and therefore reduce birthweight.

It has also been suggested that strenuous exercise may alter the tone of the pelvic floor muscles, so possibly prolonging labour, and/or increasing the risk of a forceps or Caesarean (C) section delivery.

While strenuous exercise speeds up fetal heart rate, this is only temporary, with the heart rate returning to normal once exercise is stopped, says the statement. But the quality of evidence in elite athletes is very poor, it points out.

Elite athletes who want to become pregnant might want to consider limiting the intensity of high impact training routines in the week after ovulation and during the first three months of pregnancy, it recommends.

There is strong evidence that exercise during pregnancy reduces excessive birthweight, without boosting the risk of underweight at birth. And there is moderately good evidence that it neither boosts the risk of premature birth nor reduces Apgar score—which assesses how well the newborn is doing at birth—although few studies have looked at any of these factors in elite athletes.

There is also moderately strong evidence that exercise during pregnancy does not increase the rates of induced labour, the need for surgical widening of the vaginal opening (episiotomy) or an epidural (anaesthetic injection into the spine). But these factors have not been studied in elite athletes.

Similarly, there is moderately good evidence that physical activity does not prolong labour, and some research suggests that regular exercise may even shorten it, although once again, this association has not been specifically studied in elite athletes.

But the jury is still out on the impact of exercise on method of delivery, with some research suggesting that it lowers the risk of a C-section birth. This may be partly explained by the fact that pregnant women who exercise regularly are less likely to be obese—a significant risk factor for a C-section birth.

And there is as yet no evidence on whether strenuous exercise staves off the risk of tissue trauma and muscular tears during delivery.

In summary:

- Elite athletes planning pregnancy might want to consider reducing high impact training routines in the week after ovulation and refraining from repetitive weight training during the first three months of pregnancy, as some evidence suggests this may be linked to a heightened risk of miscarriage.
- There is little risk of abnormal fetal heart rate response when elite athletes exercise at <90% of their maximal heart rates in the second and third terms of pregnancy.
- Baby birthweights of exercising women are less likely to be excessively large (>4000g) and not at increased risk of being excessively small (<2500g).
- Exercise does not increase the risk of premature birth.
- Exercise during pregnancy does not increase the risk of induced labour; epidural anaesthesia; episiotomy or perineal tears; forceps or vacuum deliveries.
- There is some encouraging evidence that the first stage of labour (before full dilatation) is shorter in women who exercise regularly.
- There is also some encouraging evidence that exercise throughout pregnancy may reduce the need for caesarean section