

# THE MOTHER-TO-BE

Women sometimes ask whether it would be better not to use a seat belt when they're pregnant. They're fearful that the belt might harm their unborn baby in some way. The answer is that they should definitely use a seat belt at all times. Right to the end of the pregnancy. But it's equally important that they put it on right.

That is: the diagonal section should wrap over the shoulder then be routed between the breasts and to the side of the belly. The lap section should lay flat over the thighs and as low as possible under the belly. It must never be allowed to ride upward.

Remove all slack from the belt and insure that it fits close to the body without any twists.

As a pregnancy progresses, pregnant drivers should adjust their seats and steering wheel such that they can easily maintain control of the vehicle as they drive (which means they must be able to easily operate the brake pedal, accelerator pedal and steering wheel). Within this context, they should strive to position the seat with as large a distance as possible between their belly and the steering wheel.

## SEAT BELT POSITIONERS

A recent addition to the accessories market is the seat belt positioner. This is designed to keep the lap belt pulled downwards, away from the wearer's tummy. As yet there have been no studies which indicate that seat belt positioners enhance user safety in an accident. But there is no evidence that they compromise safety, either.

## BELT NOT LONG ENOUGH

Discomfort is a common problem for women using seat belts towards the end of the pregnancy. Some have trouble getting the belt to reach around them. If you find you can't buckle your seat belt, you should avoid travelling by car. Avoid driving yourself in the final stages of pregnancy too, as the steering wheel or the driver's airbag could injure the baby in an accident.





## THE PREGNANT CRASH-TEST DUMMY

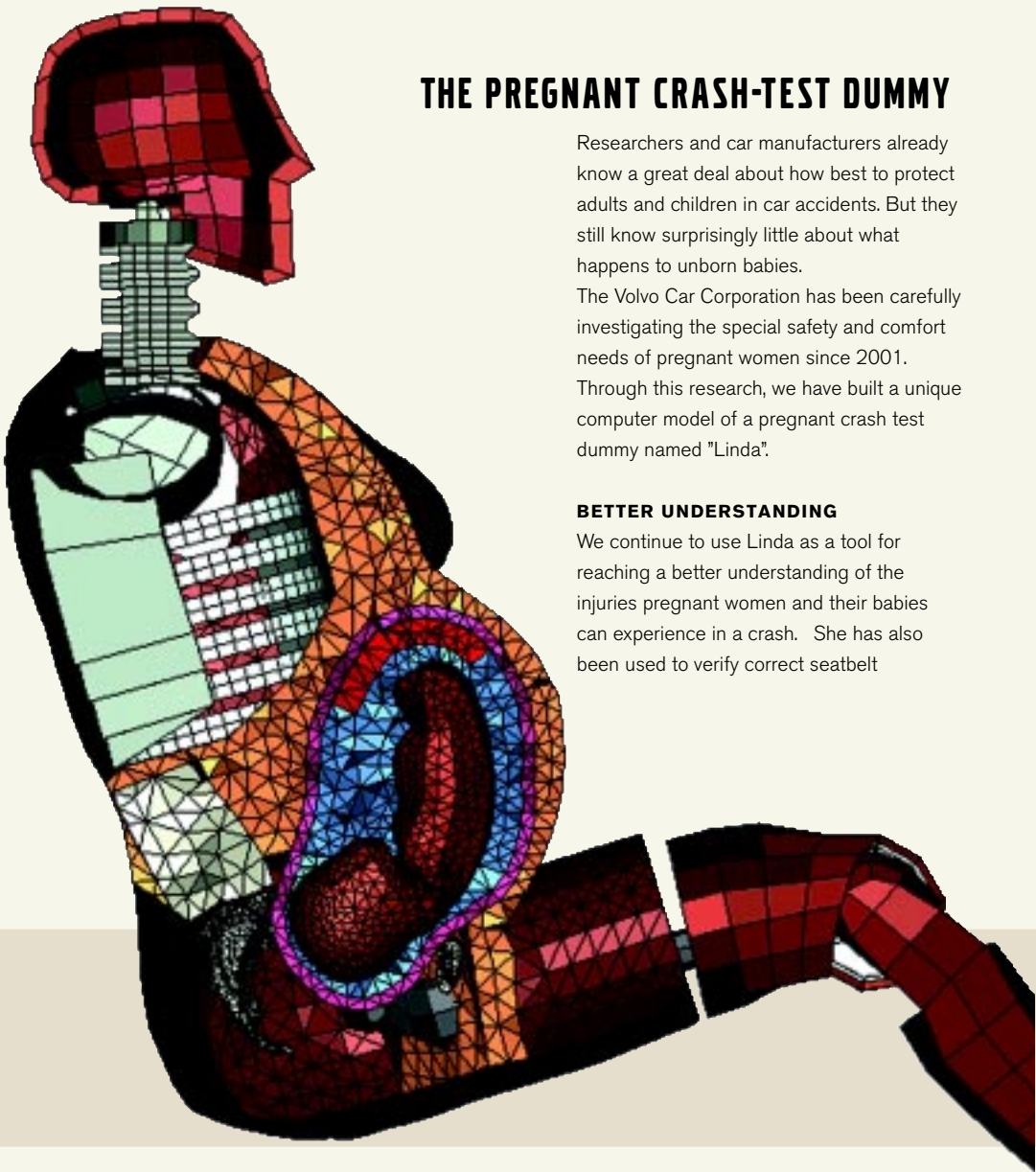
Researchers and car manufacturers already know a great deal about how best to protect adults and children in car accidents. But they still know surprisingly little about what happens to unborn babies.

The Volvo Car Corporation has been carefully investigating the special safety and comfort needs of pregnant women since 2001.

Through this research, we have built a unique computer model of a pregnant crash test dummy named "Linda".

### BETTER UNDERSTANDING

We continue to use Linda as a tool for reaching a better understanding of the injuries pregnant women and their babies can experience in a crash. She has also been used to verify correct seatbelt



placement and to aid in the development of future safety systems. In addition to examining the medical and safety system performance side of this important issue, we have also looked at comfort by running numerous ergonomics studies of our vehicles, involving over 200 pregnant volunteers.

### **THE NEED TO KNOW**

The most frequently documented cause of death is due to the placenta becoming partially or completely detached from the wall of the uterus, preventing the unborn baby from getting enough oxygen. The question is, why? Researchers believe the reason to be that, while the uterus itself is relatively elastic and can therefore change shape readily, the placenta is not equally resilient when subjected to acceleration forces. With the help of the pregnant crash-test dummy, Linda, we can increase our knowledge. We continue to work toward more discoveries to help improve safety and

comfort for pregnant women, we have so far determined that the seat belt, if worn correctly, offers the best protection against injury or death in a crash. That is: the diagonal section should wrap over the shoulder then be routed between the breasts and to the side of the belly. The lap section should lay flat over the thighs and as low as possible under the belly. It must never be allowed to ride upward. Remove all slack from the belt and insure that it fits close to the body without any twists. As a pregnancy progresses, pregnant drivers should adjust their seats and steering wheel such that they can easily maintain control of the vehicle as they drive (which means they must be able to easily operate the brake pedal, accelerator pedal and steering wheel). Within this context, they should strive to position the seat with as large a distance as possible between their belly and the steering wheel.

