



What's the Impact of Dystocia?

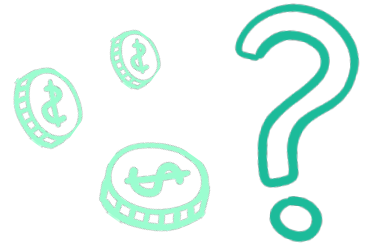
Dystocia is defined as calving difficulty that results from prolonged unassisted calving (>70 minutes after the presence of feet or amniotic sac at the vulva)¹ or prolonged or severe assisted calving.



**MORE THAN
14% OF
CALVINGS
RESULT IN
DYSTOCIA**

What's the Impact on the Cow?

Research has shown that dystocia can have a tremendous impact on cows. Specifically, in order of financial importance, researchers have demonstrated that dystocia can²:



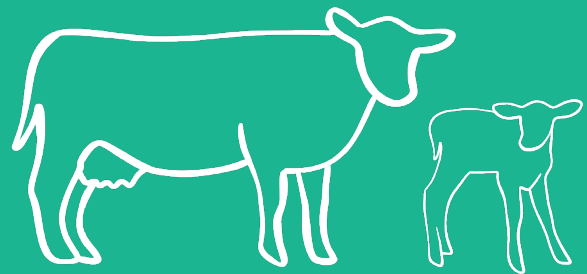
① REDUCE MILK PRODUCTION



Cows that had dystocia produced 704 kg less milk, 24 kg less milk fat, and 21 kg less milk protein over their lactation.

② REDUCE FERTILITY

Cows with dystocia have a longer number of days to first service (+3 days), reduced conception rate at first service (-5%), and increased time to pregnancy (+7 days).



These impacts likely stem from a longer time for the uterus to involute to normal size following calving, as well as a delayed return to normal ovarian function.

③ INCREASE CULLING



In some studies, cows with dystocia were more likely to be culled (+15%), which was likely related to poor reproductive performance and low milk production.

④ LINK TO OTHER DISEASES OF CONCERN FOR TRANSITION COWS



Cows with dystocia will be more likely to develop retained placenta, and uterine disease such as metritis, mastitis, and milk fever.

Why Do These Impacts Occur on the Cow?

These impacts are likely due to the injuries and trauma caused by the extraction of the calf during a difficult delivery. Specifically, when dystocia occurs, the wall of the uterus, cervix, and vulva can be cut or torn. In addition, bacteria can be introduced into the uterus causing diseases like metritis. Dystocia is painful and will lead to a decrease in feed intake, which can increase a cow's negative energy balance in early lactation.

What's the Impact on the Calf?

Dystocia also has a significant impact on the calf. Specifically, a calf born from a dystocia will have a/an³:

① INCREASED RISK OF DYING



Stillbirths by level of assistance

Mortality to 120 days of age

Increased risk of death at birth or within the first 48 hours of life, and in the first 120 days of age. This is not only restricted to early life, since calves that experienced a dystocia will have a reduced survival rate to adulthood.

② INCREASED RISK OF BEING TREATED FOR DISEASE



Digestive disease by level of assistance

Respiratory disease by level of assistance

Calves born from a dystocia are more likely to receive treatment for respiratory and digestive disease.

③ INCREASED RISK OF FAILED TRANSFER OF PASSIVE IMMUNITY



Due to the reduced vigor of calves that experienced dystocia, they will not suckle or drink colostrum as well, leading to a lower volume of colostrum and milk consumed.

④ DECREASED MILK PRODUCTION



**200-700kg
LESS MILK**

Several studies have shown the significant lifelong effects of experiencing dystocia as a calf. Specifically, a range of 200 to 700 kg loss in milk production in first lactation has been shown depending on the level of calving assistance needed.

Why Do These Impacts Occur on the Calf?

There are many reasons why dystocia can cause short and long-term impacts in dairy calves. Specifically, calves that experience dystocia:

- Will have a reduced amount of oxygen in their bloodstream, which will impair breathing and lead to a reduced function of their organs.
- Can also suffer from many internal injuries, like broken ribs, which reduce the vigor of calves after birth.
- Will have difficulty regulating their body temperature and are very susceptible to hypothermia.

Take Home Messages

- ① **Dystocia is a very costly condition that occurs commonly in the dairy industry. It can have several short- and long- term effects in dairy cows and calves.**
- ② **Prevention, through excellent calving management and supervision, is critical to reduce the long-term effects of dystocia.**
- ③ **When dystocia occurs, the application of pain management can help to reduce some of the short- and long-term effects. Talk to your veterinarian about best practices to help manage cows and calves in the event of dystocia.**

References

1. Schuenemann, G.M., I. Nieto, S. Bas, K.N. Galvao, and J. Workman. 2011. Assessment of calving progress and reference times for obstetric intervention during dystocia in Holstein dairy cows. *J Dairy Sci.* 94:5494-5501
2. Mee, J.F. 2008. Prevalence and risk factors for dystocia in dairy cattle: A review. *Vet J.* 176:93-101
3. Lombard, J.E., F.B. Garry, S.M. Tomlinson, and L.P. Garber. 2007. Impacts of dystocia on health and survival of dairy calves. *J Dairy Sci.* 90:1751-1760





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