

Study reveals the true impact of birth trauma on calves

TLC helps survivors to thrive



Difficult calvings not only have serious repercussions for the cow, but also the calf. New research adds weight to the argument for avoiding dystocia at all costs and reveals the impact of a prolonged and difficult labour on the new-born calf.

text **Rachael Porter**

Milk fever, retained cleansings, LDAs, metabolic diseases and fertility problems – the list of problems that difficult calvings, or dystocia, can cause in cows is long and full of all too familiar health conditions. But what about calves?

Many are stillborn, but what does the stress of a prolonged labour and difficult delivery have on those that are born alive – both in the short and longer term?

These questions have been tackled by postgraduate dairy researcher Alice Barrier.

She led a study at the Scottish Agricultural College, funded by DEFRA, The Scottish Government, CIS, Cogent, DairyCo, Genus, Holstein UK, and NMR under the Sustainable Livestock Production LINK Programme, to investigate the effects of birth difficulty on dairy calves and some of the findings make depressing reading.

Calving difficulty (or dystocia) affects one in six calvings in UK dairy herds, but the figure varies from just 2% to a staggering 50% internationally.

“A difficult birth is traumatic and we wanted to quantify just how bad the effects are on the new-born calf,” she says.

Post-mortem examinations

The team’s experimental work allowed the monitoring of 496 calves born with various degrees of birth difficulty over two years.

All but one vet-assisted calves were born dead, and producer-assisted calving calves were more likely to be stillborn than calves born without assistance.

Post-mortem examinations revealed that stillborn dystocial calves displayed larger internal damage – predominantly severe haemorrhaging – than stillborn calves from ‘normal’ calvings.

But they did not have a different body shape at birth compared to dystocial calves that survived.

“We also found that dystocial calves that survived the birth process had lower vigour at birth, had higher salivary cortisol, acquired lower passive immunity and received more health treatments in the neonatal period,” says Miss Barrier.

Mortality rates

“Dystocial heifers also had higher mortality rates up until weaning, but had similar growth to first-service age.” Historical records from the farm also showed that dystocial heifer calves were three times more likely to have died by weaning and by first service than calves born without assistance.

“Altogether, results suggest that dairy calves born with any difficulty have poorer welfare in the neonatal period and possibly beyond,” she added.

These findings make depressing reading and also show up that the costs of difficult calvings in both financial and welfare terms are more costly than many producers realise.

And they reinforce how vital it is for producers to avoid difficult calvings where ever possible.

So what can producers do to help calves born with difficulty and to prevent mortality and improve vigour? “Everything they would do with calves born without assistance, but just with a

little extra ‘tender loving care’ thrown in for good measure, to help them along,” says Miss Barrier.

Colostrum is, of course, vital. Calves should receive at least three litres of good quality colostrum within the first six hours of life.

“And producers should check on these calves several times a day, to make sure that they’re up and about and not showing any signs of weakness or illness. If they are, easy intervention is vital to ensure not only their survival, but that they will also maximise their growth and performance potential.”

Closer eye

Miss Barrier recommends using a marker spray on the dystocial calves so they can be easily identified within a group and producers can keep a closer eye on them throughout the rearing period.

The good news from the study is that, for dystocial calves that survived, there was no indication of altered growth to weaning or subsequent impaired fertility.

This may be explained by the early mortality of the most badly affected calves or by farm management.

“Heifer calves that survive weaning seem to cope, according to our data. They had similar growth to first service and subsequent fertility as those born with assistance.

“It may be that the ‘survivors’ may be less affected and/or good farm management compensates for adverse effects on their performance,” adds Miss Barrier.

Detrimental effects

However, they still showed lower survival to first-service age and recent studies have seen detrimental effects up to in their first lactation.

They show higher physiological stress at birth and have more fragile health in later life.

So the ultimate advice is to avoid difficult calvings at all costs – just as most producers strive to do already by carefully selecting easy calving sires and adopting good dry cow management, for example.

“And when they do occur avoid using excessive force and think about the calf as well as the cow – particularly post calving,” says Miss Barrier.

“A bit of TLC in the first hours, days and weeks of life really could be the difference between life and death.” |

Typical symptoms of a dystocial calf

- Lower vigour at birth – calves take longer to stand and walk, which is usually linked to poor survival, and delayed and lower colostrum intake.
- Higher cortisol levels (stress hormone) at birth.
- Poorer immunity and more health treatments typically required.
- Higher mortality rates to weaning – during the trial, as many as 16% of the producer-assisted heifer calves alive at birth were dead by weaning.