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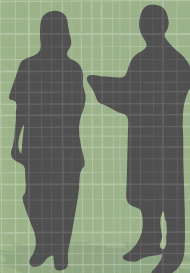
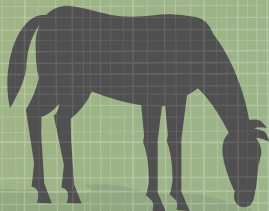
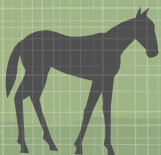
Championing the Equine Vet



**60th**



**Handbook of Presentations**





# PETER ROSSDALE PLENARY LECTURE

Chair: Huw Griffiths

LIVE STREAM ►

11.15

## Evidence in equine perinatology

**Celia M. Marr**, BVMS MVM PhD DEIM DipECEIM FRCVS

Rosssdales Equine Hospital & Diagnostic Centre, Cotton End Road, Newmarket, Suffolk, CB8 7NN, UK. Email: [celia.marr@rossdales.com](mailto:celia.marr@rossdales.com)

Peter Rosssdale believed 'the duty of clinicians to publish is one which, in many respects, is as strong as that of the duty of care of the individual patient' [1]. A core tenet was that research should seek to address clinically relevant questions and that cases seen in practice were a fruitful source of both pertinent questions and valuable data [2]. His life-long belief in the importance of practice-generated research was more widely articulated by the evidence-based medicine (EBM) movement of the 2000s and beyond, although it clearly amused him greatly that this discipline was extolled, by some more passionate adherents, as a novel approach to practice. Quite clearly Peter had been talking, and writing, about exactly the same principles for almost 50 years by that time [2]. Nevertheless, he saw the enthusiasm for EBM amongst younger clinicians of the day as an opportunity to promote the clinic as a laboratory and, in 2003, established the *Equine Veterinary Journal's* evidence-based medicine group and began prioritising rapid publication of articles which achieved specific EBM-related criteria, including a clearly defined clinical question in studies addressing naturally-occurring disease and providing strong clinical evidence to define outcomes relating to specific therapeutic or diagnostic interventions and/or refined prognostic indicators [3,4].

The benefits of an evidence-based approach to clinical practice are now well recognised. The main goal is to improve patient outcomes by ensuring that in addition to clinical expertise, decision making is underpinned by science and client preferences. In the equine veterinary profession, there is no shortage of clinical expertise but we fall behind other veterinary species in terms of the availability of robust evidence and we have yet to resolve how best to ensure that our clients' preferences are based on sound principles. Peter's career in equine practice is a blueprint for the key role that practitioners can play in the accumulation of evidence.

Peter's first publication appeared in *The Lancet*, reporting seizures in newborn foals and drawing parallels with human neonatal illness [5]. This became the underpinning theme of much of his subsequent research effort. In addition to describing clinical findings and behaviour of foals [6], he performed early work on electrocardiography [7], blood gas analysis [8,9], ventilation parameters [10] and indirect blood pressure measurement [11]. He reported neurological signs in compromised neonates [5,12,13] and by the 1970s, Peter proposed a classification of differential diagnosis of the collapsed neonate differentiating: infection; noninfective behavioural disturbance; failure of development; and immunological conditions [14]. To the modern reader, these classifications are somewhat descriptive. Nevertheless, they are accurate precursors to what we would currently think of as sepsis, neonatal maladjustment syndrome/perinatal asphyxia syndrome/hypoxic-ischaemic-encephalopathy and haemolytic disease of the newborn, terminology which continues to evolve as our understanding of pathogenic mechanisms develop.

True to his ethos that research should be applicable to practice, Peter's interest in the clinical challenge of managing foals with neurological and developmental problems led him to join forces with researchers at the University of Cambridge working on physiology and pathophysiology, and Peter's work with Dr Marian Silver's group enhanced understanding of equine fetal physiology and, in particular, the importance of adrenal function and steroid hormones [15-24]. The Cambridge group's

work on progesterone profiles in the pregnant mare [25,26], steroid hormone production in the placenta [27] and the effects of placental pathology on maternal plasma progestogens [28] ultimately paved the way to our understanding that progesterones may mediate neurological signs in neonatal maladjustment [29,30]. Peter led a team working on in vivo studies of normal and abnormal fetal development based around a pony research herd in Newmarket which advanced our understanding of prematurity and dysmaturity [31,32] and induction of parturition [33].

In parallel with this basic research on fetal and neonatal pathophysiology, Peter continued to have a strong focus on developing and validating techniques which had immediate relevance to clinical practice, exemplified by his work on use of mammary secretions to assess fetal readiness for birth [34-36]. He sought to make sense of the link between placental pathology and dysmaturity and explain the phenomenon he called 'the second day syndrome' whereby foals compromised in utero may progressively develop clinical signs relating to dysmaturity, respiratory compromise and neurological dysfunction having appeared at birth to be fairly healthy [32].

Every equine clinician who has practised since the 1960s owes Peter Rosssdale a debt of gratitude. His recognition that practice must be based on science and that science has a central place in daily clinical practice, his vision and drive to improve the world he found himself in, and his ability to motivate others to help him implement that vision has created a legacy in the form of the two journals he was instrumental in developing – *Equine Veterinary Journal* and *Equine Veterinary Education* – that look set to continue to have a central role in equine practice long into the future. It is all the more surprising to consider that he did this in his spare time, in parallel with a busy and successful career as a Thoroughbred practitioner and clinical researcher. Peter's early work in the field of neonatology has laid the foundations for modern equine perinatology and, in particular, underpins our current understanding of the management of neonatal maladjustment syndrome, the commonest reason for admission to British neonatal intensive care units in the current era.

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