

Biology Seminar

Dr. Jacopo Mortola

Department of Physiology
McGill University

The Breathing of Newborn Mammals: What is 'Special' about it?

Not long ago infants, as far as their breathing was concerned, were considered like small adults; hence, clinical approaches and pharmacological interventions were simply scaled down to the newborn's body size based on what known from adults. In the last fifty years it has become obvious that the respiratory physiology of newborn mammals, including the human infant, has many quantitative and qualitative differences from that of the adults. Undoubtedly, differences in size and degree of maturity are major factors; however, probably more important are the fundamental differences in the strategies adopted by newborn mammals to cope with their structural requirements and environmental challenges. In my talk I will try to illustrate what I perceive to be the major differences between newborn and adult mammals with respect to the physiology of breathing.



Newborn Julia Creek dunnart (*Sminthopsis douglasi*), a small marsupial gas exchanging mostly through the skin (Nature, 397: 660, 1999)