APPENDIX 2

Underweight or Malnourished Joeys

Many joeys that come into care are malnourished or have a compromised immune system. Along with proper nutrition, these animals may require veterinary care such as fluid therapy and ongoing disease treatment. It is very difficult to achieve healthy weight gain in a joey with an untreated illness.

If a joey is severely underweight when it first comes into care, ensure that rehydration has been carried out before feeding milk.

Underweight or malnourished animals may benefit from a course of **Impact Colostrum Supplement** (see page 32). Colostrum contains high levels of immunoglobulins and antibacterials, which may aid immunity and intestinal protection which in turn can help with metabolism of nutrients.

Underweight joeys should still be aged accurately to ensure the correct stage of Wombaroo Milk is being administered. The growth of bones is not usually retarded unless nutrition is extremely restricted for a long period, so head, foot and tail measurements are still useful for age determination. However, body weight is quickly affected by poor nutrition, so should not be used for age estimation. Developmental milestones (e.g. eyes open, fur growth etc.) may also be useful in age determination "by eye".

Feed volume should initially be based on the actual body weight of the joey.

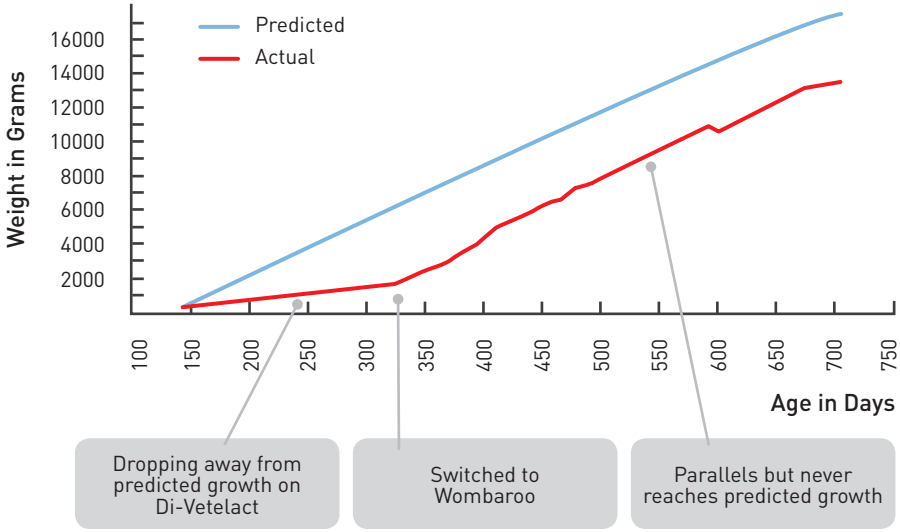
Once the joey is established on a consistent feeding regime, the daily feed volume may be gradually increased by upto 20% above the normal feed volume for that joey's weight. For example a 1kg Eastern Grey joey that would normally be on 100mL per day, may be increased to 120mL/day. This higher feed volume is designed to provide a controlled increase in daily energy intake so that an improvement in growth rate may be achieved. Take care not to increase the volume too fast or the animal may start to scour. If the animal has control of its bowels, even though the faeces are a little looser than normal then the increased feed volume is being tolerated. If it starts to scour uncontrollably, then the increase in volume has been too rapid.

Carers are sometimes reluctant to transition their joey to the next stage of Wombaroo because it is underweight. However joeys should be transitioned based on age as their digestive physiology develops regardless of their body weight. In fact, by holding it back on a formula designed for younger animals it may be missing out on essential nutrients required for its stage of development. An example of this is a kangaroo joey going from 0.6 formula to >0.7, which is a critical stage for increased growth and energy demands.

In practice, an underweight joey may not catch-up to its "theoretical" growth curve, especially if has been maintained on an unsuitable diet for a long period of time. Below is a chart showing the actual growth against the predicted theoretical growth for an Eastern Grey Kangaroo initially fed on a generic formula (Di-Vetelact™) then later switched to a specific formula suitable for its age and species (Wombaroo Kangaroo Milk Replacer >0.7). The change to Wombaroo arrests the decline in growth and then the animal parallels the expected growth line but doesn't catch up. In this circumstance an earlier switch to Wombaroo along with a controlled increase in feed volume may have been enough to close the gap.

Online Animal Record System

Animal Growth History



Reference

Chart reproduced with permission from Peter Richards (Long Grass Nature Refuge) from "Animal Husbandry Software for Australian Wildlife Carers." National Wildlife Rehabilitation Conference 2006.