

Hypoglycemia Monitoring and Intervention Protocol for Newborn Puppies & Kittens

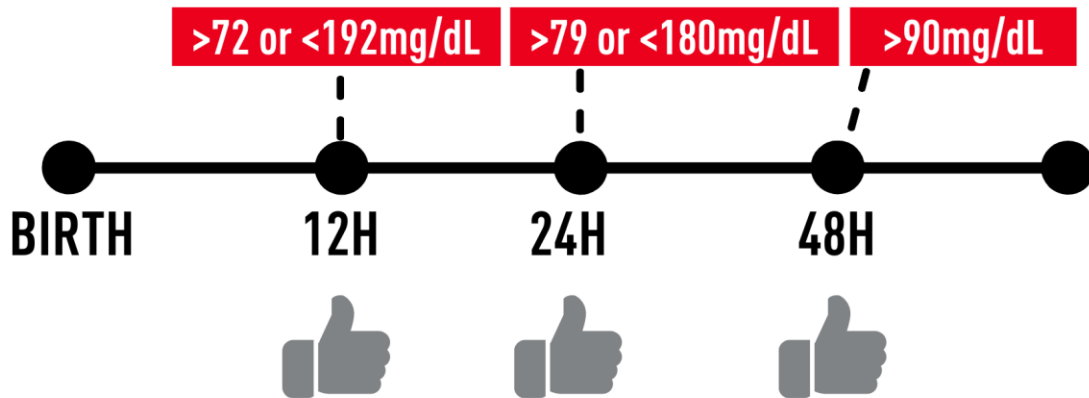
1. Identify Puppies/Kittens at Risk:

- **Monitor maternal health during gestation:** Ensure the pregnant female receives proper nutrition, as the mother's nutritional status directly influences the energy reserves of her puppies/kittens at birth. [Follow a recommended diet for each stage of gestation.](#)
- **Be aware of large litters:** Large litters can lead to a higher incidence of low birth weight puppies/kittens, which have lower energy reserves. Consider an X-ray around days 50 of gestation to estimate litter size.
- **Identify low birth weight puppies/kittens: Weigh each puppy/kitten immediately at birth.** Low birth weight puppies/kittens are inherently predisposed to hypoglycemia due to inadequate energy stores. Refer to neonatal growth charts for [puppies](#) or [kittens](#) to quickly identify low birth weight puppies for different breeds.

2. Monitor for Hypoglycemia:

- **Observe for subtle signs:** Hypoglycemia can be insidious and may not present with obvious symptoms initially. Be vigilant for any signs of lethargy, weakness, decreased activity, or poor nursing.
- **Perform routine blood glucose testing:**
 - **Test at critical times:** It is recommended to check blood glucose levels at **12, 24, and 48 hours after birth.**
 - **Use a human glucometer:** A tiny drop of blood can be collected from the puppy's ear or paw to evaluate blood glucose levels, similar to how diabetic humans monitor their sugar. [This is the glucometer](#) that was used in the scientific studies I read.

- **Understand concerning thresholds:** Be aware of the blood glucose levels that indicate a risk of hypoglycemia.



Adapted from M. Com-Nougue, S. Chastant, A. Mugnier. Early clinical predictors of neonatal mortality in puppies. 2023. in Proceedings of 1st European Symposium on Animal Reproduction, Sept 2023, Nantes.

- **Monitor daily weight gain:** Healthy puppies should gain weight daily; any weight loss should be considered abnormal. **Weigh puppies daily** during the neonatal period (birth to 3-4 weeks).

3. Intervene for Hypoglycemia:

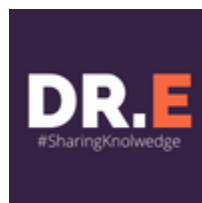
- **Provide a rapid energy source:** If a puppy shows signs of hypoglycemia or low blood glucose readings, a quick source of simple carbohydrates is needed.
 - **Karo syrup:** Light corn syrup (like Karo syrup) is frequently mentioned as a readily available solution. It is composed purely of carbohydrates, providing a rapid energy boost.
 - **Dosage consideration:** A 10% glucose solution at a dosage of 0.5mL per 100g of body weight has been used effectively in research. Karo syrup contains a comparable amount of sugars.
 - **Administration:** The glucose solution in the study was administered via tube feeding. Breeders should discuss tube feeding techniques with their veterinarian.
- **Offer alternative energy sources:**

- **Puppy Milk Replacer:** This is a preferred option as it provides a balanced nutritional profile, including energy, vital nutrients, vitamins, and minerals crucial for overall growth and development.
- **Hypercaloric supplements:** These contain energy, amino acids, and vitamins.
- **Ensure proper feeding:** Encourage frequent nursing from the mother. For at-risk puppies, supplement with a high-quality canine milk replacer.
- **Maintain a warm environment:** Hypothermia can contribute to hypoglycemia. Ensure the puppies are kept warm.
- **Seek veterinary assistance promptly:** If a hypoglycemic puppy does not respond to initial interventions (like feeding and glucose supplementation) within **24 hours**, or if the condition worsens, immediate veterinary consultation is crucial. Veterinarians can provide advanced medical treatments like intravenous glucose or intraosseous catheters in critical cases.

4. Prevent Hypoglycemia:

- **Optimize maternal nutrition during pregnancy:** Feed a well-balanced, high-quality diet appropriate for each stage of gestation.
- **Monitor litter size:** Knowing the expected litter size can help prepare for potential issues like low birth weight in large litters.
- **Equip your maternity area:** Have essential tools readily available: a scale for weighing puppies, a glucometer for blood glucose monitoring, and a high-quality canine milk replacer for supplementation. Consider having a colostrum replacer available as well.
- **Perform APGAR scoring:** Assess each puppy immediately after birth to identify those at higher risk.
- **Ensure optimal environmental conditions:** Maintain appropriate temperature and humidity in the whelping box.
- **Promote early and frequent nursing:** Ensure all puppies have access to colostrum soon after birth and continue to nurse regularly. Supplement weak or low birth weight puppies as needed with milk replacer.
- **Implement daily weight monitoring:** Consistent weight monitoring is a key indicator of health and development. Use neonatal growth charts to track progress.

By implementing these monitoring and intervention steps, dog breeders can proactively manage the risk of hypoglycemia in newborn puppies and improve their chances of survival and healthy development. Remember that prevention is key, and consulting with a veterinarian is essential for any concerns or critical situations. This protocol is specific to puppies based on the provided sources. Information regarding kittens was not available in these sources.



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