

The mental and physical development of the puppy from birth to twelve weeks, and the effects of the interactions which take place between the litter mates and the dam

The development of the puppy from birth to twelve weeks is a fascinating period of its life. During this short time the young pup will go through a set of physical changes from changing eye colour to gaining its sense of hearing and sight, while mentally it will develop a sense of awareness for its environment, learning how to behave like a dog and understand what is and is not acceptable dog behaviour.

The first critical period for a puppy is at birth to two weeks this is also known as the **Neonatal period**. When the puppy is born it is entirely dependent on its mother, the dam. The puppy has no sense of hearing, sight, nor has the ability to independently relieve itself; its brain controls its heartbeat and breathing. However, the puppy is not completely isolated from the outside world as it does have a sense of smell and we suppose that as well as sensing its mother through scent, it can smell its litter mates and humans as well. "Warmth and the maternal milk are the two most pressing necessities [for the puppy]...There is not yet need for aggression and even fear does not express itself fully."¹ Here Roger Abrantes highlights how warmth and food are the prime concerns for the new born pup. During the neonatal period the puppy uses its taste reflexes and nerves to sense the warmth of its mother and any movements away from the dam will cause the puppy to experience a temperature drop, in turn the puppy will vocalise its distress until it is rescued by its mother. How the puppy locates its mother's nipple to get that all important meal is achieved by using its sense of touch and taste sensitivity. Using these two senses the puppy will find its way to the mother's breast area to suckle. The puppy's ability to find its mother's teats and warmth is referred to as *biotonus*.² During the neonatal stage the mother will ensure she keeps her puppies close, her tasks will be to feed her pups with milk first and then by regurgitation, she will keep them warm, keep their surroundings clean and lick the puppies to stimulate the emptying of their bowel or bladder; this in turn imprints on the minds of the puppies that this is their mother.³ The other role of the mother is that of the educator. Over the coming weeks she will growl or even attack them to teach them what is and is not acceptable behaviour.

¹ Book: Abrantes, Roger (reprinted 2005) *The Evolution of Canine Social Behaviour*, Wakan Tanka Publishers, chapter 2, page 18.

² Book: Abrantes, Roger (reprinted 2005) *The Evolution of Canine Social Behaviour*, Wakan Tanka Publishers, chapter 2, page 249.

³ Book: Turner, Trevor (edited by) (reprinted 2006) *Veterinary Notes for Dog Owners*, Popular Dogs Publishing Co. Ltd, chapter 5, page.60.

Walk the Dog

Hanne Grice

In association with Dog Listener

Bruce Fogle suggests that as the pup is under the care of the mother during this early stage, how she cares and behaves with her puppies will influence their behaviour in later life.⁴

At birth, a puppy's weight can vary depending on the breed of the dog. For example, the average Chihuahua's birth weight is approximately three to five ounces while the Great Dane's is normally four to five times that. By the time these two breeds reach their maturity the weight differential is even more significant, with the Chihuahua weighing around six pounds compared to the Great Dane coming in at around hundred pounds!⁵ Over the course of the next few weeks the puppy's outer physical appearance and weight change will be rapid. Mentally the puppy's nervous system is developing too, and its brain pattern experiences a few small peaks compared to around three to five weeks when these peaks are more regular and definite. As a result of the developing nervous system the puppy now moves in a co-ordinated way unlike the sluggish and slow movements made in the early days following its birth.

The second critical period in the development of the puppy is the **Transitional period** (around two to four weeks). John Fisher refers to this period as 'Canine Socialisation'. During this stage the puppy's eyes will open and change colour from blue to brown. Its ear flaps will also lift enabling it to hear sound clearly for the first time and its balance will improve; as a result of these changes the puppy will have a new sense of awareness for its surroundings and litter mates. The puppy can now control its body temperature and it becomes more adventurous. At this stage, any new or loud noise and sudden movements will startle the puppy. Therefore from around the two week period until the puppy leaves the breeder's home, it is vital the puppy begins to experience gentle human handling and stimulation in order to help its confidence and over all well being.

By two weeks of age the puppy will have touch reflexes on its front legs and by three weeks on its back legs. During this time the puppy's teeth will come through and from here the puppy learns how to regulate its bite through play with its litter mates and by the dam; the puppy will bite its siblings and be bitten back. With the puppy's new sense of touch in its legs, improved co-ordination plus sense of sight and sound, it begins to act more like a dog as the puppy explores its surroundings, jumping up the sides of a whelping box, wandering further away from its mother and problem solving along the way. The puppy begins to interact

⁴ Book: Fogle, Bruce (1990) *The Dog's Mind*, Pelham Books, chapter 6, page 71.

⁵ Book: Beauchamp, Richard (2002) *Breeding Dogs for Dummies*, Wiley Publishing Inc., chapter 3, page 81.

Walk the Dog

Hanne Grice

In association with Dog Listener

more with its littermates and the learning process continues.⁶ Playing becomes very important as the puppy begins to understand its limits and environment. Through 'rough and tumble' games the puppy learns about expressions, body language and experiences conflict. The mother will also play with her pups, teaching them how to hunt, to pounce and shake their prey.⁷ These attack and defence movements learnt through play would, if the puppy was in the wild, help him later in the hunt for prey and in challenges over status. "Play fighting and biting with the needle sharp teeth that Mother Nature gave them [puppies] teach them how hard to bite to cause pain and by being bitten in return they feel what pain feels like. In fact, the only purpose that these needle sharp teeth have is to cause pain."⁸

As the puppy continues to develop both mentally and physically we begin to see a change in the relationship between the mother and her pup. The puppy's nervous system is now more developed as a result of myelin coating on the nerves, this improvement means that by three to four weeks of age the puppy no longer needs the stimulus from the mother to help it go to the toilet. And with the arrival of razor-sharp teeth, the mother begins to teach her young consequence of actions if they bite her while suckling or in boisterous play. She will now begin to evade their advances for nourishment, and from around five weeks the process of regurgitation begins.⁹

This shift in the relationship between mother and puppy continues as the young dog enters the third critical stage of its development – the **Socialisation period** (five to twelve weeks). During this time the mother-pup relationship moves from that of the 'care giver' to a more dominant-submissive interaction. This change is underlined by the mother teaching her puppy what is and is not acceptable behaviour and she will snarl, growl, snap or even attack as 'punishment'. According to Fogle, the severity of punishment or threats the mother uses in altering her relationship with the puppy at this stage can have a direct bearing on how that puppy behaves with people. Fogle sites research undertaken by Erik Wilsson at The Swedish Dog Training Centre, where puppies whose mothers were extremely aggressive with them and continued to punish them even after they withdrew were less socially gregarious with people compared to other

⁶ Book: Abrantes, Roger (reprinted 2005) *The Evolution of Canine Social Behaviour*, Wakan Tanka Publishers, chapter 2, page 199.

⁷ Book: Woodcock, Dee (2002) *Preventing puppy problems; leave in peace with your puppy*, Dogsense Publications, part 1, page.29.

⁸ Book: Fisher, John (reprinted 2005) *Think Dog! An owner's guide to canine psychology*, Octopus Publishing Group Ltd, chapter 2, page 14.

⁹ Book: Fogle, Bruce (1990) *The Dog's Mind*, Pelham Books, chapter 6, page 77.

Walk the Dog

Hanne Grice

In association with Dog Listener

pups.¹⁰ Wilsson's research illustrates how early imprinting can affect the behaviour of the dog. This imprinting continues through play during this third stage of development, as the puppy begins to learn about the hierarchy of the pack and signals for dominance and submission. Through play puppies learn how to interact with other dogs "and they [puppies] acquire their first lessons in the Doggish language".¹¹ Dominant activities through playing include pouncing, chasing or attacking and biting littermates, while submissive signals include the puppy's tail tucked under, licking of lips, urinating and rolling onto its back.¹² All of these signals will be used throughout the life of the dog as part of his communication tool-kit.

Between the ages of five to six weeks, the puppy is capable of learning much more due to its now efficient nervous system and the puppy's cerebellum or hind region of its brain has developed, so he has the ability to stay awake if he wishes to do so.¹³ This is therefore a key time to introduce new experiences. "Having learnt how to be dogs during the first period of their development, the puppies should now learn how to be dogs within a human environment."¹⁴ It is now that the role of the breeder becomes ever more vital as human handling and exposure to other influences will imprint on the mind of the puppy. For example, if the puppy experiences a fright or something traumatic such as rough handling from an over zealous visitor, the puppy may develop a deep rooted fear when faced with a similar situation. Learning how to deal with these situations at an early age is important for a puppy, so breeders should expose the litter to a variety of experiences but in a calm and controlled way to ensure there is a positive association with these experiences before they leave for their new homes, typically around seven to nine weeks of age. Ed Bailey, animal behaviourist, notes the importance of imprinting particularly with the dog's sense of smell (olfactory imprinting) and advises prospective owners to visit the litter from five weeks of age on, handling the chosen puppy and allowing it to imprint on specific smells to help establish a bond.¹⁵

¹⁰ Book: Fogle, Bruce (1990) *The Dog's Mind*, Pelham Books, chapter 6, page 81.

¹¹ Book: Coren, Stanley (2005) *How to Speak Dog: the art of dog – human communication*, Pocket Books, chapter 12, page 201.

¹² Book: Fogle, Bruce (1990) *The Dog's Mind*, Pelham Books, chapter 6, page 89.


¹³ Book: Fogle, Bruce (1990) *The Dog's Mind*, Pelham Books, chapter 2, page 17.

¹⁴ Book: Fisher, John (reprinted 2005) *Think Dog! An owner's guide to canine psychology*, Octopus Publishing Group Ltd, chapter 2, page 16.

¹⁵ Book: Coppinger, Raymond & Lorna, (2004) *Dogs*, chapter 4, p.113.

Walk the Dog

Hanne Grice

In association with Dog Listener 

There are a several experiences that a breeder should expose her puppies to, in order to help their well being and confidence. Firstly the breeder should introduce the puppy to **gentle handling**. The puppy should be handled by the breeder, then members of the family, friends and visitors as well as being introduced to children and babies under supervision. By experiencing gentle handling with a number of people of varying ages and sizes (who are wearing a variety of clothing from hats, shoes, jackets etc) this becomes a pleasant experience for the puppy and will help it to have a positive association with humans. Along with gentle handling the breeder may introduce the idea of grooming to the young dog by carefully clipping its tiny claws, gently touching the puppy around its head and lip area, and introducing the experience of having their coat brushed. By familiarising the puppy with these situations the young dog will be more accepting of this sort of handling when at the vets or when being groomed.


Human interaction through play is also important, not only does it physically and mentally stimulate the puppy, but it helps build their trust in humans and be more sociable around them. If, however, during play the puppy bites the breeder, it is important that they react to this by 'yelping' and moving away from the puppy (acting like a littermate would do) to indicate that was painful and the game has ceased as a result. By doing this the puppy learns to inhibit their bite and how hard a bite elicits a yelp.¹⁶ This will help teach the puppy what is acceptable and what is not. This is particularly important as at this stage, as aside from its littermates, the puppy will not have any interaction with strange dogs until it has been fully vaccinated.

As well as introducing the puppy to all kinds of people, handling and play, the breeder would be wise to also expose the puppy to various **sounds and levels of noise**. These could include loud bangs such as the clattering of a saucepan, the television, radio, Hoover, a microwave pinging, the door bell ringing, rustling of shopping bags and even laughter. These sounds and experiences can be frightening for a puppy, so it is also important the breeder does not respond in a human way by picking up the puppy and comforting it. By doing so, the puppy will be convinced there is something to fear. Instead, the breeder should ignore the fear response and call the puppy over or ask for a sit so the puppy can be

¹⁶ Book: Woodcock, Dee (2002) *Preventing puppy problems; leave in peace with your puppy*, Dogsense Publications, part 2, page.33.

Walk the Dog

Hanne Grice

In association with Dog Listener 

praised and rewarded, so next time it faces a similar situation it is positive and pleasant.¹⁷

Finally, most breeders should have an understanding of the personalities of their puppies having watched and interacted with them over the weeks following birth. By observing and understanding their temperaments and their responses to the experiences they have been exposed to, the responsible breeder should match the **right type of dog to the right environment**. Ensuring both dog and new owner have the best matched relationship and best possible start to their new life together.

¹⁷ Book: Woodcock, Dee (2002) *Preventing puppy problems; leave in peace with your puppy*, Dogsense Publications, part 1, page.12.