



How much exercise do growing dogs need?

Initial situation

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Many dog breeders advocate a restrictive exercise plan for puppies and young dogs. The intention is to minimize the risk of hereditary joint diseases such as elbow dysplasia (ED), hip dysplasia (HD), or osteochondrosis. However, there are no scientific publications that prove a connection between limited exercise in the first year of life and the occurrence of skeletal problems.

Facts about the pathogenesis of growth disorders

The heritability of HD and ED is 18-60% (Beuing et al., 2000; Ubbink et al., 2000; Malm et al., 2008; Engler, 2009; Hartmann, 2011), while that of patellar luxation is around 30% (Wangdee et al., 2014). This should be distinguished from the predisposition of various dog breeds, which has been proven for HD, ED, and patellar luxation (Vidoni et al., 2005; OFFA, 2010; Griffon, 2012; Michelsen, 2013). Obesity has been identified as a generally negative factor for various skeletal problems throughout a dog's life (Edney and Smith, 1986; Lund et al., 2006; Nitsch and Kölle, 2021). The ingredients in commercial dog food are safe in terms of skeletal health, especially calcium and protein (Nap, 1993; Nap and Hazewinkel, 1994).

The influence of the amount of exercise on the body remains. Finnish authors have compiled a collection of studies on this topic based on experiments with young beagles (Kiviranta et al., 1988; Kiviranta et al., 1992; Arokoski et al., 1994; Jortikka et al., 1997). Depending on the experimental setup, either one leg was immobilized for weeks and then moved, or the dogs were made to run on a treadmill for 2, 4, or 20 km. The quality of the joint cartilage was examined histologically. In summary, it can be said that the highest glycosaminoglycan levels, the hardest joint surfaces, and thus the best cartilage composition were achieved with moderate running performance of around 4 km per day, the worst values occurred with inactivity, and even extremely long treadmill times led to surprisingly little cartilage degradation and hardly any osteoarthritis. It is also known from human pediatrics (Heimkes, 2016) that physical inactivity in boys leads to underdeveloped apophyses and, as a result, to muscular misalignment in the adjacent joint. This subsequently led to hip joint dysplasia.

What conclusions can we draw from these facts?

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Dense bones and strong muscles are required

For the skeleton to support the weight of the growing body, it must be mineralized after birth, which is stimulated by stress on the bones. Similarly, the growth plates must be subjected to pressure and tension so that the joints develop correctly in terms of shape and function. Increasing muscle strength is necessary to shift weight from the sole to the toes, which is a prerequisite for stable and fast movement in dogs.

Diverse and varied exercise is necessary for brain development.

Physical activity causes the muscles to release hormone-like messenger substances (myokines), which, among other things, stimulate the formation and networking of nerve cells—especially in the hippocampus, the center for memory and learning. The various areas of the brain responsible for perception, spatial awareness, body awareness, coordination, and balance are also stimulated and further developed during movement.

Complex movement sequences can only be learned through repeated practice, and this includes walking up and down stairs.

Playing promotes motor skills, cognitive development, and emotional resilience!

Exuberant and regular play with suitable companions is particularly important for development, because it not only challenges the musculoskeletal system in a variety of ways, but also allows necessary skills such as impulse and emotion control, social competence, frustration tolerance, and risk competence to be acquired and practiced. When playing, young dogs experience a loss of control and learn to deal with unpredictable situations in a positive context, which makes them more adaptable to situations that may arise unexpectedly later in life. Rules and fairness must be observed, and there may be moments of fear or frustration. These mild stressors help the dog to better cope with stress and anxiety-inducing situations later on.

Some young dogs prefer to play gently and calmly, while others can't get enough of rough play. In any case, like-minded playmates should be sought. Especially for very social breeds or individuals, frequent free contact with other dogs is a great need, and satisfying this need is very important, especially during the adolescence. A lack of contact can lead to severe frustration on the one hand and deficits in social behavior on the other.

Free exploration of the world together with its people

Not restricting your puppy's need for exercise also means letting it run around outside without a leash as often as possible. Thanks to its innate instinct to follow, this is usually possible without any problems during the first four months of a puppy's life and allows you to playfully practice recall. Being tied to a leash is restrictive and therefore often frustrating. In addition, a dog on a leash can only walk or trot, which does not sufficiently stimulate the development of its musculoskeletal system. Dogs learn to walk on a leash later in life, so it is better to use the puppy stage to build a secure bond and mutual trust. This is the basis for giving young dogs a sense of security even in stressful situations.

Exercise is also a good way to let puppies pass small tests of courage, such as walking on a wobbly tree trunk or climbing an open staircase. And they should also learn that they can solve small problems through their own decisions and actions. This promotes not only physical confidence but also self-confidence.

Healthy growth also requires plenty of sleep.

At eight weeks of age, puppies are active for up to six hours a day, with each activity phase lasting 30-60 minutes or more. After these varied activities, puppies sleep for several hours at a time. Unlike adult family dogs, which mainly sleep at night, these sleep phases are spread over 24 hours. Puppies sleep for around 18 hours, and as they get older, their sleep phases become shorter in favor of activity phases.

During sleep, hormones and growth factors are released that are essential for normal skeletal growth. However, for puppies to sleep deeply and relax, they need not only their needs to be met, but above all a sense of security and safety.

Growing up requires muscle strength

Muscle development is particularly important for large-breed or heavy puppies because they gain body weight very quickly and must move a lot of weight at an early age. Both overweight and underweight should be avoided. Well-developed muscles are essential for puppies to stabilize their various gaits as quickly as possible. For puppies that enjoy exercise, this usually happens naturally through their own activities, but for more sluggish puppies, it can sometimes be challenging to motivate them to get enough exercise.

Recommendation – plenty of free movement and a secure bond

Restrictive recommendations for exercise and specifying the duration of walks in minutes have no scientific basis and are outdated. As with all other species, there is no such thing as too much self-directed exercise for a healthy puppy, and it should be allowed to do what it is capable to do. Therefore, its need for exercise should not be restricted, and it should be allowed to play a lot with suitable companions and make its own decisions. A trusting and secure bond with its humans is also essential for healthy development, so that the puppy can grow into a well-balanced, well-socialized, and resilient adult dog.