



# Saint Bernard

**Longevity:** 8-9 years

**Points of Conformation:** A powerful figure, this breed is noted for the imposing stature and massive head with an intelligent expression. The wide skull is characterized by strong cheek bones, marked stop, and a furrow runs over the midline of the skull, including the muzzle, wrinkles are present over the forehead, and the muzzle is square, with well-developed flews on both upper and lower lips. Usually the palate is pigmented black. The nose and lips are also black. Ears are high set and triangular in shape, floppy, with a broad base. The front margin of the pinna sits against the head. Eyes are dark brown, medium-sized and moderately deep set. The lower lids normally form a triangle and rest in an everted position. The neck is strong, of medium length and the dewlap is well developed. The thorax is of moderate depth and ribs are well sprung. The topline is level, though it gently curves down to the tail in the croup. The tail is heavy and long, straight to slightly curved. Limbs are straight, heavily boned and muscled. Dewclaws are undesirable and may be removed. Feet are large and broad, with good knuckling up of the toes.

## Recognized Behavior Issues and Traits

Reported breed characteristics include: Docile, placid temperament, strong on a leash, not suitable for apartment living due to size. Slow to mature physically. Most are excellent with children and eager to please, but need to have early obedience training due to their size. Some can be aggressive. Low shedding tendency except during spring and fall when they blow the coat. They possess a moderate drooling tendency. Not a watchdog, but they will alarm bark. Will defend a family member if directly threatened. Good with other dogs, especially lacking inter-male aggression due to their history of work in male dog rescue teams.

## Normal Physiologic Variations

In a UK study, 41.2% of litters were born via **Cesarean section**.<sup>1</sup>

## Drug Sensitivities

None reported

## Inherited Diseases

**Hip Dysplasia:** Polygenically inherited trait causing degenerative joint disease and hip arthritis. Reported 7.2x odds ratio versus other breeds. OFA reports 46.7% affected.<sup>2,3</sup>

**Elbow Dysplasia:** Polygenically inherited trait causing elbow arthritis. OFA reports 16.2% affected. Reported 53.4x odds ratio for fragmented coronoid process, and 14.2x odds ratio for ununited anconeal process forms of elbow dysplasia versus other breeds.<sup>2,3</sup>

**Patella Luxation:** Polygenically inherited laxity of patellar ligaments, causing luxation, lameness, and later degenerative joint disease. Treat surgically if causing clinical signs. Too few Saint Bernard's have been screened by OFA to determine an accurate frequency.<sup>2</sup>

## Disease Predispositions

**Ectropion:** Rolling out of eyelids, often with a medial canthal pocket. Can cause secondary conjunctivitis. Can be secondary to macroblepharon; an abnormally large eyelid opening. Ectropion is reported in 28.33% and macroblepharon in 15.00% of Saint Bernard's CERF examined by veterinary ophthalmologists between 2000-2005. Dorn reports a 4.64x odds ratio in Saint Bernard's versus other breeds.<sup>4,5</sup>

**Entropion:** Rolling in of eyelids, often causing corneal irritation or ulceration. Dorn reports a 4.64x odds ratio in Saint Bernard's versus other breeds. Entropion is reported in 11.67% of Saint Bernard's CERF examined by veterinary ophthalmologists between 2000-2005.<sup>4,5</sup>

**Cataracts:** Intermediate cataracts predominate in the breed. Identified in 11.67% of Saint Bernard's CERF examined by veterinary ophthalmologists between 2000-2005. CERF does not recommend breeding any Saint Bernard with a cataract.<sup>5</sup>

**Persistent Pupillary Membranes:** Strands of fetal remnant connecting; iris to iris, cornea, lens, or involving sheets of tissue. The later three forms can impair vision, and dogs affected with these forms should not be bred. Identified in 8.33% of Saint Bernard's CERF examined by veterinary ophthalmologists between 2000-2005.<sup>5</sup>

**Hypothyroidism:** Inherited autoimmune thyroiditis. 7.2% positive for thyroid autoantibodies based on testing at Michigan State University. (Ave. for all breeds is 7.5%).<sup>6,7</sup>

**Gastric Dilatation-Volvulus (Bloat, GDV):** Polygenically inherited, life-threatening twisting of the stomach within the abdomen. Requires immediate veterinary attention. Dorn reports a 2.91x odds ratio of developing GDV versus other breeds. Glickman reports a 4.2x odds ratio.<sup>4,8</sup>

**Humeral Osteochondritis Dissecans (OCD):** Polygenically inherited cartilage defect of the humeral head. Causes shoulder joint pain and lameness in young growing dogs. Mild cases can resolve with rest, while more severe cases require surgery. There is a 2.24:1 male to female ratio. 75% of all cases are unilateral. Reported 12.2x odds ratio versus other breeds. Dorn reports a 3.19x odds ratio of developing OCD versus other breeds.<sup>3,4</sup>

**Cranial Cruciate Ligament (ACL) Rupture:** Traumatic tearing of the ACL in the stifle, causing lameness and secondary arthritis. Treat with surgery. Reported at an increased incidence versus other breeds.<sup>9</sup>

**Osteosarcoma (Bone Cancer):** The Saint Bernard is a breed predisposed to develop malignant osteosarcoma, usually in the long bones of the limbs. A Swiss study showed 4.0% of the breed affected by age 6, and 8.2% by age 10, with a median age of onset of 7.3 years.<sup>10,11,12</sup>

**Distichiasis:** Abnormally placed eyelashes that irritate the cornea and conjunctiva. Can cause secondary corneal ulceration. Reported in 3.33% of Saint Bernard's CERF examined by veterinary ophthalmologists between 2000-2005.<sup>5</sup>

**Dilated Cardiomyopathy:** Saint Bernard's are a predisposed breed for this condition, resulting in heart failure. Prevalence of 2.6%. Average age of clinical signs is 5.3 years. Unknown mode of inheritance.<sup>13</sup>

**Corneal Dystrophy:** Saint Bernard's can have an epithelial/stromal form of corneal dystrophy. Reported in 1.67% of Saint Bernard's CERF examined by veterinary ophthalmologists between 2000-2005.<sup>5</sup>

**Idiopathic Epilepsy (inherited seizures):** Seizures can be partial or generalized. Control with anti-seizure medication. Seen at an increased frequency in the breed.<sup>14</sup>

**Primary Hypoparathyroidism:** Identified in several Saint Bernard's. Clinical signs included anorexia, behavioral changes, muscle tremors, seizures, panting, and cataracts. Serum calcium was low, phosphorus elevated, and the immunoreactive parathyroid hormone level low in all dogs. Most dogs responded to synthetic vitamin D and oral calcium. Unknown etiology.<sup>15,16</sup>

**Multiple Ocular Defects:** Rare disorder seen in Saint Bernard puppies. Characterized by microphthalmia, aphakia, acoria, peripheral anterior synechia, and retinal dysplasia. CERF does not recommend breeding any Saint Bernard with the condition.<sup>5,17</sup>

**Cutaneous Asthenia, Deafness, Dermoid Sinus, Factor IX Deficiency, Hypofibrinogenemia, Malignant Hyperthermia, Narcolepsy, Panosteitis, and Sebaceous Adenitis** are reported.<sup>18</sup>

## Isolated Case Studies

**Liver Lobe Torsion:** A 5-month-old, male Saint Bernard was presented for acute collapse and abdominal discomfort. Exploratory surgery revealed torsion of both the left lateral and middle liver lobes. Early diagnosis and prompt surgical intervention is required.<sup>19</sup>

**Occipito-Atlanto-Axial Malformation:** A male Saint Bernard dog became suddenly tetraplegic at 8 weeks, was recumbent, had generalized muscle atrophy, but was alert and responsive. Pain was elicited on manipulation of the head-neck junction and the cervical vertebrae. Radiographs revealed malformation of the occipital bones, atlas, and axis, unilateral atlanto-occipital fusion, and atlanto-axial subluxation.<sup>20</sup>

**Hepatic Arteriovenous Fistula:** Two Saint Bernard pups, 7 and 5 months old respectively, were examined because of anorexia, vomiting, and ascites. Exploratory laparotomy disclosed arteriovenous fistula of the right medial lobe of the liver in one dog, and in the right medial and quadrate lobes of the other one. Surgical removal of the affected lobes resulted in cessation of presenting signs. Both dogs remained healthy but had poor weight gain and vomited occasionally.<sup>21</sup>

**Nasal Philtrum Arteritis:** Related Saint Bernard's developed solitary, well-circumscribed, linear ulcers on the nasal philtrum, with repeated episodes of arterial bleeding. Onset 3-6 years. Histopathological findings included lymphoplasmacytic dermatitis, proliferating spindle cells of either myofibroblast or smooth muscle origin, and deep dermal arteries and arterioles subjacent to the ulcer. The lesions respond to steroidal treatment.<sup>22</sup>

## The Breed History

The St. Bernard dogs are thought to have originated from crosses of Asian Molosser dogs (*Canis molossus*) that were introduced to Switzerland by the Romans with local dogs. Augustine Monks bred these dogs primarily in the main pass between Switzerland and Italy; later named the Great St. Bernard Pass. Documentation of their use as rescue dogs in the Alps dates to the late 1600s. In 1830, outcrossing to Newfoundland dogs was done to increase breed vigor because of extensive inbreeding. This resulted in the first of the longhair subtype of the breed which turned out not to be desirable as the long hair trapped snow and ice. The breed was formally named in 1880. The original breed standard was developed in 1884 but some differences persisted in type between Swiss and English dogs. AKC recognition occurred in 1885. The English wrote a separate standard in 1887. The St. Bernard Club of America follows the original Swiss standard.

## Breeding for Function

St. Bernard's were primarily used for draft, clearing trails in snow, guarding, and for herding. In the Swiss Alps, they became invaluable to the Monks, particularly at the Hospice St. Bernard de Menthon in the St. Bernard pass. Their live-saving role helped travelers safely traverse the treacherous mountain passes, and they provided search and rescue. They used their excellent tracking skills to find those lost in avalanches for example. No records were kept on how many lives were saved, but estimates run in the thousands.

## Physical Characteristics

**Height at Withers:** ideal height for female 25.5" (65 cm), male 27.5" (70 cm).

**Weight:** 110-200 lb (50-91 kg).

**Coat:** The coat is very dense, and the hairs lie smoothly down; hairs are strong but not coarse, short, and the tail hair is longer near the body than at the tip. Colors include red with white markings, white with red markings, and brindle with white. Red may be a brownish-yellow without fault. There is a specified pattern of markings. Dark mask and ears are favored. There is a longhaired and shorthaired variety. The autosomal recessive longhaired variety is actually a medium length coat. Hair is slightly wavy, though face and ears have a short straight coat.