

Wolf Pup Development

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Neonatal Period - from birth to the age of eye opening 12 - 14 days

- Birth - Born approximately one pound, blind, deaf, darkly furred, small ears, rounded heads, "pugged" nose, little if any sense of smell; they are unable to control own body temperature, motor capacities limited to a slow crawl, mainly with front legs and to sucking and licking; possess a good sense of balance, of taste, and of touch, can whine and yelp; nursing pups feed four or five times a day for periods of three to five minutes and on average females will gain 2.6 lbs. and males 3.3 lbs. per week for the next fourteen weeks. This time is known as the "period of maximal growth."

Transition Period - from eye opening until about 20 - 24 days

- 2 weeks - Eyes open and are blue at 11-15 days, but vision is poor and they are not able to perceive forms until weeks later; milk incisors present (15 days) and can start eating small pieces of meat regurgitated by adults; begin to stand, walk, growl, and chew; first high-pitched attempts at howling.

Socialization Period - from 20 - 24 days until about 77 days

- 3 weeks - Begin appearing outside the den and romping and playing near the entrance; hearing begins (~27 days, ears begin to raise; ~31 days, ears erect but with tips still flopping); canines and premolar teeth present.
- 4 weeks - Weigh 5-6 lbs.; growth of adult hair around nose and eyes; bodies begin to take on conformation of adults with disproportionately large feet and head; high-pitched howls are gaining strength; mother may go off for hours on end to hunt; dominance and play fighting begin.
- 5 weeks - Gradual process of weaning begins. Can follow adults up to one mile from den.
- 8 weeks - Disproportionately large feet and head.
- 8-10 weeks - Adults abandon den and move pups to rendezvous site; weaning complete, pups can feed on food provided by adults; adult hair becomes apparent on body.
- 8-16 weeks - Eyes gradually change from blue to yellow-gold.

Juvenile Period - from 12 weeks to sexual maturity

- 12 weeks - Begin to accompany adults on hunting trips for a short while and return to rendezvous site by themselves.
- 3.5 months - The "period of rapid growth (14-27 weeks)" begins: the pups will gain approximately 1.3 lbs. per week for the next three months.
- 4-6 months - Milk teeth replaced; winter pelage becomes apparent.
- 6 months - Pups begin to accompany adults on hunts; pup appearance nearly indistinguishable from adults.
- 7 months - The "period of slow growth (27-51 weeks)" begins: the female pups will gain approximately .07 lbs. per week and the male pups will gain approximately .4 lbs. per week; pups begin to travel with pack.
- 7-8 months - Actively begin hunting.
- 1 year - Epiphyseal cartilage closes off, marking the end of skeletal growth.
- 22 months - Sexual maturity.

Mech, Dr. L. David and Boitani, Luigi eds. (2003) *Wolves: Behavior, Ecology, and Conservation*. University of Chicago Press: Chicago.

Mech, Dr. L. David. (1970) *The Wolf: The Ecology and Behavior of an Endangered Species*. University of Minnesota Press: Minneapolis, p. 136, 140-143.