

Rat Biological Facts

Physiological Data:

Body temperature.....	35.9-37.5°C (96.6-99.5°F)
Heart beats/ min.....	250-600
Breathing rate/ min	66-114
Weight, adult male.....	300-400 grams
Weight, adult female.....	250-300 grams
Birth weight.....	5-6 grams
Sexual maturity.....	40-65 days
Estrous cycle frequency	4-5 days
Duration of estrus	13-15 hours
Time of ovulation.....	2-3 hours after estrus onset (spontaneous)
Gestation period.....	20-22 days
Litter size.....	8-14 pups
Eyes open.....	10-12 days
Weaning age.....	21 days
Breeding life.....	8 months
Mating	pair (monogamous) or harem (polygamous); one male, 2 females
Life span.....	2.5-3 years
Water consumption	24-60 ml/ day
Food consumption.....	15-30 g/ day (Rats require hard foods to wear down teeth)

Organ System Norms:

• Cardiovascular

o Arterial blood pressure

□ Mean systolic

116 mm Hg

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- Mean diastolic..... 90 mm Hg
- o Heart rate 250-600 beats/min
- o Cardiac output..... 50 ml/min
- o Blood volume..... 5.43 ml/100 gm body wt.

• Respiratory

- o Respiratory rate..... 66-114/min
- o Tidal volume..... 1.5 ml
- o Alveolar surface area (400 gm rat) 7.5 m²

• Renal

- o Urine volume/24 hr..... 5.5 ml/100 body wt.
- o Na⁺ excretion/24 hr 1.63 mEq/100 gm body wt.
- o K⁺ excretion/24 hr..... 0.83 mEq/100 gm body wt.
- o Urine osmolarity 1658 mOsm/kg H₂O
- o Urine pH..... 7.3-8.5
- o Urine specific gravity 1.04-1.07