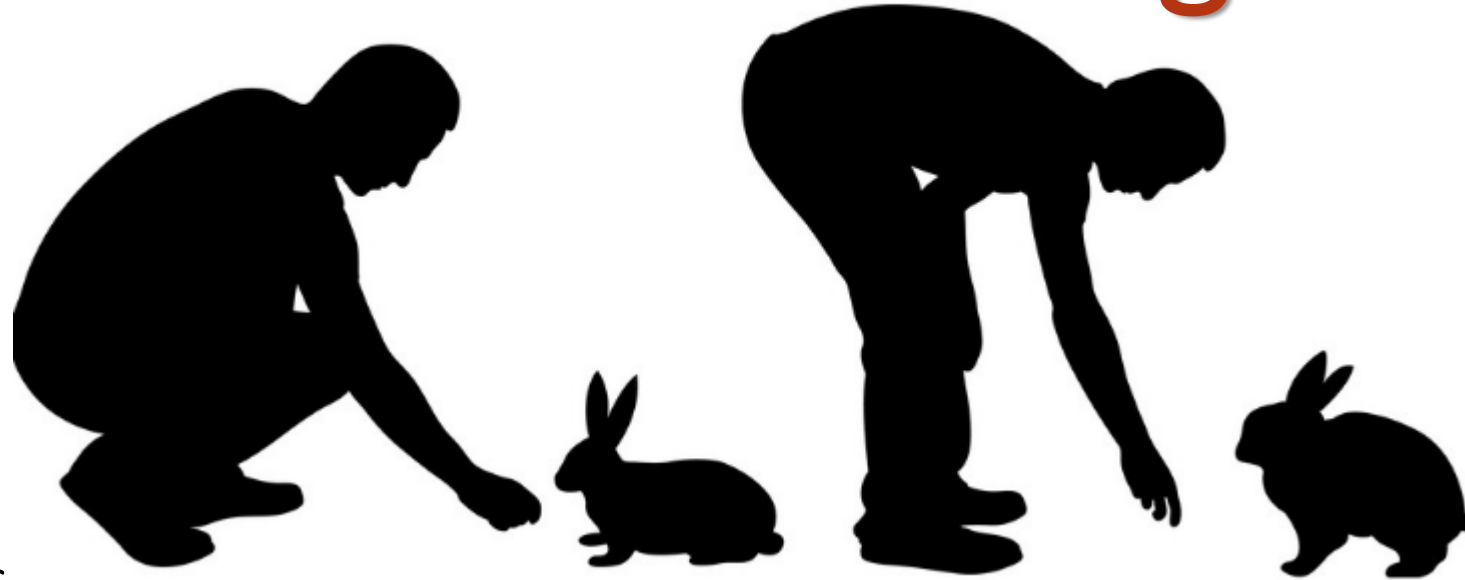


Rabbits and Men: Relating Their Age



Review Articles

- Sulgna D., Pallav S. Rabbits and men: relating their ages. Journal of Basic and Clinical Physiology and Pharmacology



Continuing Education Topic for CMU-ACUC

CMU-ACUC Meeting 06/2563 [29th April 2020]

General physiology and reproductive data : laboratory rabbit (NZW)

Common physiological data		Reproductive data	
Chromosome number (2n)	44	Age at estrous	5–6 months
Birth weight	30–80 g	Weight at estrous	1.7–3 kg
Adult weight	2–6 kg	Frequency of estrous cycle	Induced
Growth rate	15–20 g/day to 8 weeks	Duration of estrous	NA
Body temperature	38–40 °C	Time of ovulation	After mating
Body surface area	$9.5 \times (\text{weight in grams})^{2/3}$	Menopause	5–7 years
Energy requirement for growth	180–200 kcal/day	Parturition interval	79 days
Water consumption	100–600 mL/day	Average sperm volume, mL	0.3–0.6
Food consumption	100–300 g/day	Sperm concentration, $\times 10^6/\text{mL}$	150–500
Skeletal weight	7–8% of total body weight	Sperm motility, %	~60
Average litter size	4–10	Serum testosterone (ng/mL)	2.0–2.5
Heart rate	130–325	Time sperm detected in vagina	3–24 h
Arterial blood pressure		Time of implantation	Days 8–9 of gestation
Systolic	90–130 mmHg	Length of gestation, days	31–32
Diastolic	60–90 mmHg		
Respiratory rate	30–60 per min		
Blood volume	45–75 mL/kg body weight		

NA, not applicable; NZW, New Zealand White.

Relation between rabbit's age and human's age

❖ Age determination of laboratory rabbits : common methods

- ✓ Eye lens weight
- ✓ Musculo-skeleton examination: Epiphyseal closure
- ✓ Body weight assessment
- ✓ Annual layers of mandibular bone

❖ Age determination of laboratory rabbits and human

- ✓ Relation between their **life span** >>> 8.00 human days = 1 rabbit day
- ✓ **Weaning period** of rabbit and humans >>> 6.43 human days = 1 rabbit day
- ✓ Rabbit and human age to attain **puberty** >>> 20.0 human days = 1 rabbit day
- ✓ **Reproductive senescence** in rabbits and humans >>> 8.50 human days = 1 rabbit day
- ✓ **Post-senescence phase** in rabbits and humans >>> 7.25 human days = 1 rabbit day

(A) Correlating one human year with rabbit days in different phases of life
 (B) Comparing social maturity phases of humans and rabbits

(A) Correlating human years with rabbits days

Entire life span	45.625 rabbit days	=1 human year
Weaning period	56.77 rabbit days	
Pubertal phase	13.04 rabbit days	
Adulthood	18.25 rabbit days	
Reproductive senescence	42.94 rabbit days	
Post-senescence period	50.34 rabbit days	

(B) Rabbit age versus human age

Rabbit age	Human age
3 weeks	4 years
1 month	6 years
3 months	10 years
4 months	12 years
6 months	16 years
1 year	21 years
2 years	27 years
3 years	33 years
4 years	39 years
5 years	45 years
6 years	51 years
7 years	57 years
8 years	63 years
9 years	69 years
10 years	75 years

* LAC CMU SOP ฉบับปัจจุบัน [ฉบับที่ 2 version 2018]

- แนะนำให้เริ่มใช้กระต่ายที่อายุตั้งแต่ 6 เดือนขึ้นไป
- ทั้งนี้สามารถใช้กระต่ายซ้ำได้ไม่เกิน 3 ครั้ง โดยต้องมีระยะห่างกันอย่างน้อย 60 วัน

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- Sulgna D., Pallav S. Rabbits and men: relating their ages. Journal of Basic and Clinical Physiology and Pharmacology

