

The Use of Electroejaculation (EE)

by Dr. S. W. J. Seager

First Puppies Whelped from
the Use of Frozen Semen



Timber Wolves



Male



Female (AI)

First Animals
from Frozen Semen



Early Electroejaculation (EE) Equipment
circa 1970



Domestic Cat and Original EE Unit



First Litter from Frozen Semen



African Lion Semen Collection (EE)



EE Equipment Developing
circa 1980



Finding *Correct Size* of Rectal Probe



Rhino (EE)
Berlin Zoo



EE Equipment Develops (FDA)



Lowland Gorilla Semen Collection



EE Gorilla Team

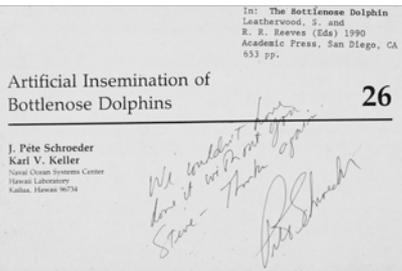


Bottle Nosed Dolphin
Hawaii



Dolphin Probe





Male Giant Panda Fertility Evaluation
Berlin Zoo, Germany



Giant Panda
(AI)

Giant Panda Cub
(1st week)

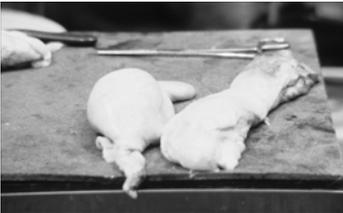
Magpie Hornbill (EE)
Singapore Bird Park



The Ejaculate

Species	Vol. (mls)	Total Sperm Count 10^6
Man	2.0	0.2
Stallion	70.0	8.4
Bull	4.0	4.8
Boar	250.0	37.5
Ram	1.0	3.0
Dog	10.0	1.25
Tom	0.04	0.05
Giant Panda	4.2	1.2 (microejaculation)

Black Rhino Testicles
(Internal)



Testicular Size and Total Sperm Count

Species	cms		Vol	10 ⁶
	Length	Diameter		
Man	4.5	2.5	18	0.2
Horse	12	7	28	8.4
Bull	15	8	38	37.5
Boar	15	8	38	1.25
Ram	11	7	28	4.8
Dog	5	3	22	1.2
Giant Panda	53	3.4	24	1.4

Male Secondary Sexual Glands

Species	Prostate	Seminal Vesicles	Bulbourethral Glands	Urethral Glands
Man	+	+	+	+
Horse	+	+	+	-
Bull	+	+	+	-
Boar	+	+	+	-
Ram	+	+	+	-
Dog	+	-	+	-
Cat	+	-	+	-

Copulation Times/Frequency

Species	Copulation	Frequency
Man	?	?
Horse	3 minutes	5/day
Bull	7 seconds	10/day
Ram	4 seconds	30/day
Boar	10 minutes	4/day
Dog	45 minutes	
Alpaca	60 minutes	
Lion	3 minutes	160/day
Springbok	In mid air	

Os Penis - Baculum

<i>Species</i>	
Man	-
Dog	+
Bear	+
Gorilla	+
Camel	+
Walrus	+

Delayed Fertilization

Hen	> 3 months
Lobster	> 8 months
Bee	> 4 months

Delayed Embryo Implantation

Bear	> 3 months
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Gestation

Shortest	American Opossum	10 days
Longest	Alpine Black Salamander	1140 days

The Female Armadillo



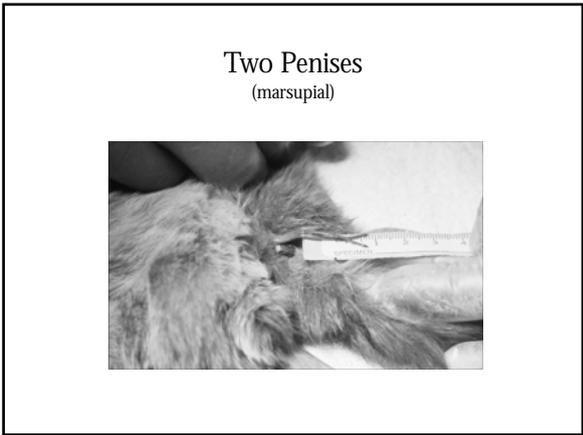

*Four offspring,
all the same sex*

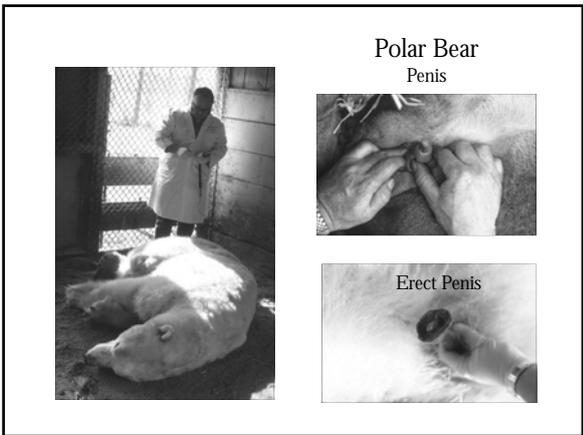
Opossum with Her Babies




Semen Deposition

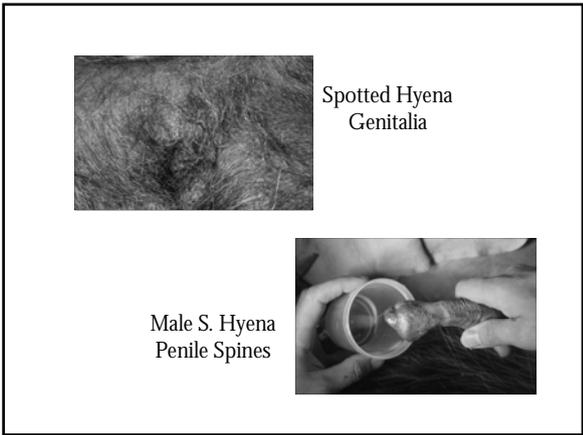
<u>Species</u>	<u>Vagina</u>	<u>Os Cervix</u>	<u>Uterus</u>
Man	+	+	-
Horse	-	+	+
Bull	+	+	-
Sheep	+	+	-
Boar	-	-	+

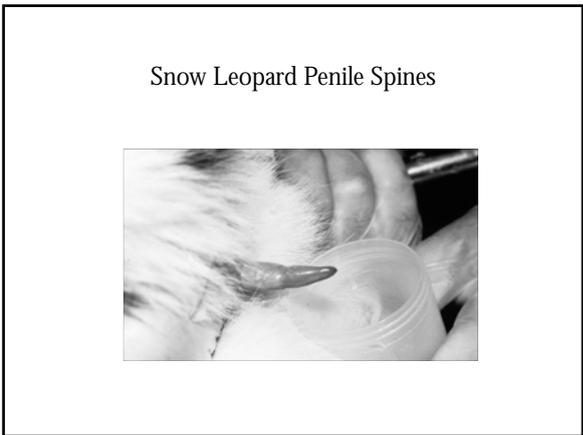




Penile Spines

Species	
Man	-
Lion	+
Domestic cat	++
Fisher cat	+++
Mere cat	++++





Meerkat (African Mongoose)
Penile Spines



Electroejaculation Procedure using Seager
Equipment and Techniques on an SCI Subject



EE Equipment Develops
(FDA & CE)





Children
AID - AIH



**Electroejaculation Success
Last 367 Subjects**

- ◆ 367 subjects ejaculated, 100% ejaculation
- ◆ 350 subjects (95%) had sperm in sample

**NRH Fertility Program
Electroejaculation (EE)
in the Neurologically
Impaired Male**

S.W.J. Seager and L.S. Halstead

Information on Pubertal Boys with Cancer

information was kindly supplied by
Jens Sonksen, MD, PhD, DMSci and his colleagues
Department of Urology, Herlev Hospital
University of Copenhagen

Electroejaculation in Pubertal Boys with Cancer

- N= 9
 - Year of age: 13 - 15
 - Semen Characteristics
 - Volume (antegrade) 0.8 - 4.7 ml
 - Total number (millions) 4 - 111
 - Motility (%) 10 - 44
 - All semen sent to cryopreservation before chemotherapy
- Muller, Sonksen et al Med Pediatr Oncol 2000**

EE International Interest Group



Electroejaculation of the
Anejaculatory Male

- Medical Procedure
- Good Patient Acceptance
- Inexpensive
- Non-invasive
- Safe
- Repeatable
- Proven
- 100% Success in obtaining an ejaculate

Ejaculate Can be used for AI, IUI, IVF & ICSI

Ejaculation Success

Last 402 Subjects

- 402 subjects ejaculated, 100% ejaculation
- 386 subjects (96%) had sperm in their ejaculate

Last 10 Couples

(Husband Spinal Cord Injured)

All got pregnant with AI/IUI

*G. Delaney, M.D.
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Thank You
