

The Use of Electroejaculation for the Treatment of Infertility in the Anejaculatory Male

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

Studies in Anejaculation

Idiopathic (Neurogenic, Psychogenic, or other)**
Spinal Cord Injury (Traumatic and Non-traumatic)*
Retroperitoneal Lymph Node Dissection (RPLND)**
On day of egg retrieval**
Diabetic**
Multiple Sclerosis (MS)*
Drug Induced **
Post-surgical**
Spina Bifida*

NRH

* May require GA

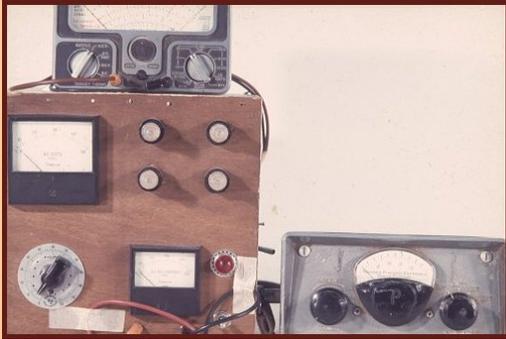
** Requires short GA

Sexual Function in SCI Males

Causes of Infertility: (Talbot, 1955)

- Ejaculatory dysfunction
- Impaired spermatogenesis
- Ductal blockage

**Electroejaculation Unit
circa 1970**



Cat and Original EE Unit



**Cat with First Born Kitten using
EE and Frozen Semen**



Male Calico Cat



Klinefelter's Syndrome



Dr. Seager and First Pups whelped from the use of Frozen Semen



African Lion Semen Collection



Lowland Gorilla Semen Collection



EE in Black Rhino



Probes 5, 6 & 7



EE Unit circa 1980



EE Model 10



Giant Panda and Dr. Seager

Berlin Zoo, Germany
Fertility Evaluation
of Male Panda



Giant Panda



SCI Monkey used in original EE Study

(Seager, McGuire et al)



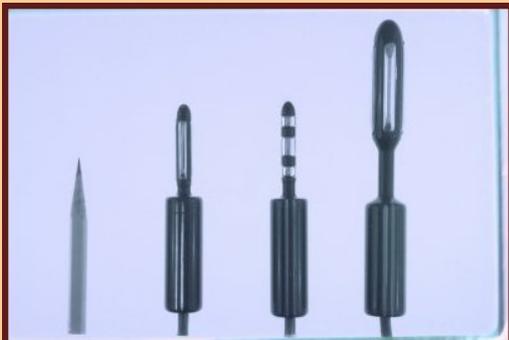
EE Model 12 with Probe



EE Model 14 circa 1995



Probes



**Seager EE Equipment
Various Electrode Designs**



**Professor G. Brindley's
EE System circa 1980**



If Penile Vibration works

use it
until it fails

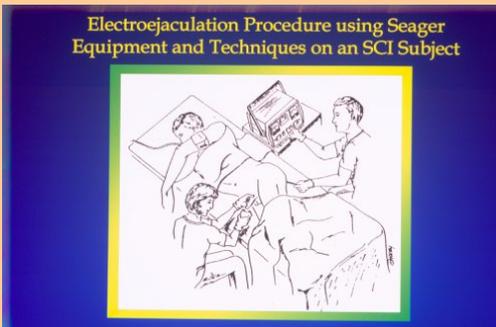
Penile Vibrator



Penile Vibrator in Use



EE Procedure



International EE Data Sheet

The image shows a thumbnail of a form titled "International Electroencephalogram (EE) Data Sheet". The form contains various fields for patient information, clinical details, and EEG recording parameters. It is organized into several sections with headings and sub-headings.

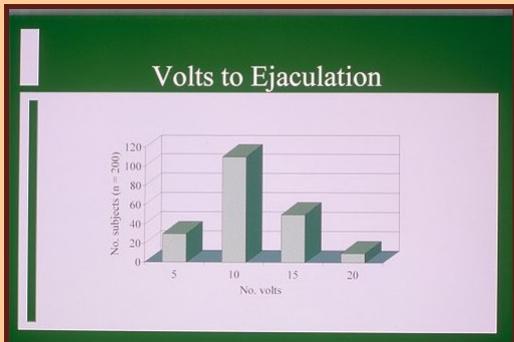
Ages of Men who have had EE Procedures Performed

- SCI: Range 16 - 60 years
- Non-SCI: Range 20 -71 years
- Length of Injury: Range 2 months - 43 years

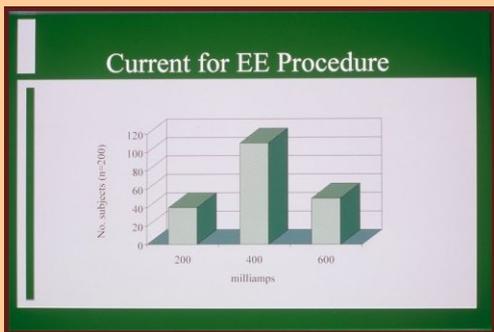
Stimulation Time

- Average 4.6 minutes
- Range 3.5 - 5.7 minutes

Voltage Required for Ejaculation



Current (Amps) required for EE Procedure



Laboratory Analyzed Semen Pre and Post SCI

Patient	DOB	DOI	COI	Level
MB	1968	Aug 1991	Fall	T9 Complete
MA	1967	July 1990	MCA	T9 Complete

NRH

Laboratory Analyzed Semen Pre and Post SCI

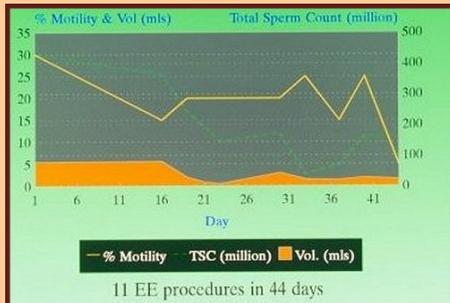
Date	Vol (mls)	TSC (million)	%Mot.	Prog.Mot.*
MB-Pre-Injury: Sept.'99	2.0	278	70	3-4
Post-Injury**: Dec.'99	1.7	21	70	2-3
MA-Pre-Injury: Mar.'90	2.0	400	50	3
Post-Injury** Nov.'90	2.5	993	50	4

Frequent EE Procedures in one SCI Subject

NY White Male
 DOB: 1960 Injury:C8/T1 Complete
 None traumatic injury in 1983 when 19 years of age

NRH, 1994

Frequent EE Procedures in one subject



Electroejaculation Subjects with SCI of > 15 Years

Level of Injury	n=	Mean Total	
		Sperm Count (million)	Motile Sperm (million)
Cervical	31	1424	209
Thoracic	49	859	126
Lumbar	5	99	7

Multiple EE Procedures in One SCI Subject

E. S. **White Male**
DOB: 1951 **Injury: T5-6 Complete**
Motorcycle accident in 1970 when 18 years of age

NRH

Multiple EE Procedures (Ante grade Ejaculates)

Procedure Number	Date	Volume mls	Motility %	Progressive Motility*	Total sperm Count/million
1	Jan-86	2	20	3	264
2	Nov-86	2.5	35	4	544
40	Jan-91	7	50	4	1400
55	Jul-92	6.8	50	4	1200
68	Jun-94	8.2	50	3-4	1200
74	Nov-96	7.4	45	4	900
W.H.O.		>2.0	>60	-	>40

Based on a scale of 1 -4, with 4 being optimal
 ES/NRH

**Electroejaculation in Subjects
(N=582)**

- Spinal Cord Injured 466
- Idiopathic 49
- RPLND - post 38
- Diabetic 19
- Multiple Sclerosis 6
- Spina Bifida 2
- Myalitis 2

Fertility Options
Current Cost in the USA

- IUI • \$700
- IVF • \$9,000+
- MESA • \$2,500+
- TESA • \$2,500+
- Vas Aspiration • \$2,500+
- ICSI • \$11,000+

NRH

NRH Fertility Program

Number of EE Procedures Performed
from 1984 to date = 5,600+

**Dr. Seager with a
Couple and their Child**



Couple with Two Children
First Child by AID,
Second Child by AIH (EE)



Dr Seager with Couple
First NRH - ICSI Pregnancy



**Fertility Evaluation Men
who have suffered
Spinal Paralysis prior to puberty**

S. Seager; A. Jamous; D. Short;
Rafi Heruti; G. Zeikig; and L. Halstead
National Rehabilitation Hospital
Stoke Mandville U.K.

MedStar Health

Materials and Methods

- 15 Males who had suffered spinal paralysis
- 11 years of age and under (volunteers)
- Age at injury averaged 5.6 years
- None had full physiogenic erections
- 4 reported reflexogenic erections
- Paralysis ranged from C-6 through L-1

Materials and Methods (cont)

Semen samples were collected by -
Electroejaculation (12)
Penile Vibration (3)

Results

Ejaculates were obtained from all of these subjects; one did not have sperm in his sample.

Fourteen subjects had a total sperm count averaging 448×10^6 , range 2×10^6 to 1.2×10^9 . motility averaging 28%, range 0 to 62%.

The length of time between injury and first EE trial averaged 27 years.

Conclusions

This group of men had good fertility potential considering the fact that they had never ejaculated normally.

Such subjects inquiring about fertility should be encouraged.

Using IUI or ART (IVF/ICSI intracellular cytoplasmic sperm injection) their fertility potential is comparable with those in our study who suffered spinal paralysis post puberty.

Dr. Seager with SCI Patient in Czech Republic



Sarajevo 1999



Sarajevo 1999



Sarajevo 1999



EE Physician Training in Bosnia



Unique Meeting with Bosnian and Croatian Doctors



Pressure Sores



EE Training Team in Bosnia



Bosnian Veterans



EE Magpie Hornbill, Singapore



Ejaculation of the Anejaculatory Male

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

Ejaculation Success Last 367 Subjects

- 377 subjects ejaculated, 100% ejaculation
- 360 subjects (96%) had sperm in sample

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

International EE Interest Group American Urological ASSOC.



END
