

## REFLEX EJACULATION UNDER VIBRATORY STIMULATION IN PARAPLEGIC MEN

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**Abstract.** In 12 of 21 men with complete or nearly complete spinal cord lesions who had not ejaculated since their injuries, application of a powerful vibrator to the penis caused ejaculation.

**Key words:** Ejaculation; Vibrator; Paraplegia.

### Introduction

MOST men with complete spinal cord lesions do not ejaculate during coitus, and many of them have tried unsuccessfully to obtain semen by masturbation. Combining the data of Zeitlin *et al.* (1957), Bors & Comarr (1960) and Comarr (1970), ejaculation has been reported by only four of 110 men with complete cervical lesions, three of 78 with complete upper thoracic lesions, and 41 of 416 with complete lower thoracic or lumbar lesions.

By electroejaculation, semen can be obtained from about two thirds of men with complete cord lesions (Brindley, 1981), but from some of these only retrogradely. Wives can be taught to electroejaculate their husbands at home, but the equipment is expensive for domestic use.

Tarabulcy (1972) mentioned that J. Whelan (unpublished at that date and still unpublished as far as I know) had obtained semen from paraplegic man by applying a vibrator to the penis. I here report my experience of this potentially useful procedure.

### Observations

Table 1 shows, in chronological order, the 21 men in whom I have attempted to provoke ejaculation by applying a Ling 201 vibrator (Ling Dynamic Systems Ltd., Royston, England) or a Pifco massager, at either 70 Hz or 100 Hz and between 1.6 and 2.4 mm peak-to-peak amplitude when loaded, to the ventral surface of the glans penis. In 12 the procedure was successful, and nine of these 12 have told me that they have had subsequent success in their own homes. For domestic application, they use a Pifco massager. This vibrates at 100 Hz and about 1.6 mm peak-to-peak amplitude when loaded.

The results of electroejaculation in the same men are also shown in Table I. It was successful in 16 of them, but was less than fully satisfactory in seven of these because a general anaesthetic was needed (cases 10 and 17) or because the emission was sometimes or always retrograde or the semen was contaminated with urine (cases 4, 5, 6, 15 and 19).

All but three (cases 4, 15 and 19) of the 12 men in whom application of the vibrator was successful said that they had already made many strenuous attempts

TABLE I

Case No.	Age	Lesion	Duration (years)	Urethral surgery	Electroejaculation					Vibrator				
					S345	S12	L45	Erection	Emission	No. of Attempts	TGPR	Erection	Ejaculation	
1	?	T4	2	?	+	?	?	tr	o	1	?	?	$\frac{3}{4}$	o
2	?	L1 inc	1	?	+	?	?	tr	o	1	?	?	tr	o
3	23	T7	4	o	+	+	+	$\frac{1}{2}$	Ext (1)	1	+	+	$\frac{1}{2}$	Ext (3)
4	26	C7 inc	7	BN	+	+	+	$\frac{1}{2}$	Ext (2) R (2)	4	+	+	full	Ext. (1) R (1)
5	27	T11	6	BN	+	+	+	o-tr	Ext + U (2)	2	+	+	o-tr	Ext (2) Ext + U (1)
6	21	T5	1	o	+	+	+	$\frac{1}{2}$	R (1)	1	+	+	$\frac{1}{2}$	o
7	23	T6	6	o	+	+	+	o-tr	Ext (6)	7	+	+	$\frac{1}{2}$	o
8	22	T6	5	o	+	+	+	tr- $\frac{1}{2}$	Ext (>20)	>20	+	+	tr-full	Ext (1)
9	34	T9	12	o	+	+	+	o-tr	Ext (>20)	>20	+	+	o	o
10	24	T8 inc	5	o	+	+	+	$\frac{1}{2}$	Ext (2) (GA)	2	+	+	$\frac{1}{2}$ -full	Ext (1)
11	26	L1 fl	3	BN	o	o	o	$\frac{1}{2}$	o	1	o	o	o	o
12	44	T9	11	o	+	+	+	$\frac{1}{2}$ -full	Ext (10)	10	+	+	$\frac{3}{4}$	Ext (1)
13	30	T10	25	o	+	+	+	o-tr	Ext (4)	4	+	+	full	o
14	28	T5	7	o	+	+	+	o-tr	Ext (5)	5	+	+	tr	Ext (1)
15	36	T5	17	BN	+	+	+	o-tr	Ext (3) Ext + U (9) R (1)	13	+	+	$\frac{3}{4}$	Ext (1)
16	36	T7	15	o	+	+	+	tr-full	Ext (4)	4	+	+	$\frac{1}{2}$	Ext (1)
17	24	L2 inc	2	o	+	+	o	$\frac{3}{4}$ -full	Ext (1) (GA)	1	+	+	tr	o
18	25	T2	2	o	+	+	+	full	Ext (2)	2	+	+	$\frac{3}{4}$	Ext (1)
19	31	C7	4	BN	+	+	+	full	Ext (2) R (2)	4	+	+	full	Ext + R (1)
20	21	T6 inc	1	o										
21	18	T7 inc	$\frac{1}{2}$	o										

S345 = muscles of S2, S4 and S5 segments respond (+) or do not (o)  
 T6PR = tonic glandular reflex of Gillan & Brindley (1979)  
 inc = incomplete; some sensation spared but no voluntary movement or almost none  
 fl = flaccid  
 BN = transurethral resection of bladder neck  
 tr = trace

Abbreviations  
 $\frac{1}{2}, \frac{1}{3}, \frac{3}{4}$  = penis swelled by roughly this fraction of the volume increase needed for full erection  
 PP = pain prevented sufficient stimulation  
 Ext = external emission of pure-looking semen  
 Ext + U = external emission of mixed semen and urine  
 R = retrograde emission  
 GA = general anaesthesia

to obtain semen by masturbation before I first saw them, and had always failed. One man (case 5) says that since I demonstrated to him that the vibrator works he has again tried masturbating by hand, and has succeeded, but not in all attempts, whereas the vibrator invariably works.

In all the 17 successful applications of the vibrator that I have done the emission of semen occurred between 20 seconds and 4½ minutes after application of the vibrator and was accompanied by rhythmic movements of the pelvic floor or abdominal muscles or legs or all three; it seems to be roughly similar to normal ejaculation, and different from the quiet emission that commonly occurs during the 'electroejaculation' procedure. In all but one of my successful applications, and in most of the 50 or more successful domestic applications reported to me by patients, the semen has been free from conspicuous contamination by urine.

In two patients with high lesions (cases 18 and 19), application of the vibrator caused severe headache in addition to ejaculation. In patient 19 the blood pressure rose, at the peak of the headache, to 180/130. Successful electroejaculation in this patient had on four occasions caused less severe and less prolonged headache, though a similar rise in blood pressure. In patient 18, electroejaculation had on two occasions caused no headache and very little rise in blood pressure; yet application of the vibrator caused severe headache, which continued for 10 minutes after the ejaculation.

### Discussion

These 21 men are not a random sample of the male paraplegic population, but they suffice to show that ejaculatory response to a vibrator is not rare among male paraplegics. When successful, application of a vibrator is likely always to be preferable to electroejaculation as a means of obtaining semen from a patient with a lesion at T5 or below. The equipment is cheaper, and the risks probably negligible for such a patient. In patients with high lesions the risk of provoking severe autonomic dysreflexia may be greater for the vibrator than for electroejaculation. With electroejaculation I have seen many times that the blood pressure begins to fall as soon as stimulation is stopped; with the vibrator it seems that this is not so.

The procedure will presumably fail in any patient with a complete lesion at L1 or lower segmental level, even if the lower sacral segments of the cord survive, because the ascending fibres of the spinal reflex arc must be destroyed. In other patients it may succeed or fail, and only trial will show which. Such trial is easy and almost certainly safe. Though the tonic glandipudendal reflex it can give information not otherwise obtainable about the state of the lower sacral segments of the cord.

I have no experience of sites of application other than the ventral surface of the glans, or frequencies other than 70 or 100 Hz. If these fail, other sites or frequencies may be worth trying.

*Note added in proof:* Patients 8 and 14 have reported that their wives are now pregnant. The couples' consent to paternity tests was obtained in advance, and these tests will be done.

### RÉSUMÉ

Chez 12 parmi 21 hommes paraplégiques qui n'avaient pas éjaculé depuis qu'ils sont blessés, stimulation du pénis avec un vibreur (70 ou 100 Hz, ca. 1.6 mm mouvement) provoqua une éjaculation.

## ZUSAMMENFASSUNG

Reizung des Penis mit einem Vibrator (70 oder 100 Hz, ca 1.6 mm Bewegung) verursachte Ejakulation in 12 von 21 paraplegischen Männern, die seit ihrer Verletzung keine Ejakulation hatten.

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