

La valutazione Neuro-urologica

- **Complicanze genito-sessuali:**
 - impotenza erigendi/coeundi
 - disturbi dell'eiaculazione
 - disturbi della lubrificazione
- **Complicanze vescico-sfinteriche**
 - dissinergia sfinterica
 - afferenza / efferenza
 - detrusore (beta2; M1); sfintere (alfa1)

IMPOTENZA e DIABETE

Dal 15 al 55% in base all'età del soggetto e della malattia

EZIOLOGIA:

PSICOGENA (35%)

NEUROGENA

VASCOLARE

ENDOCRINA-METABOLICA

IATROGENA

Impotenza NEUROGENA

- DISFUNZIONI del S.N. somatico o vegetativo
- Valutazioni clinico-anamnestiche:
 - disturbi delle sensibilità tattili, termopalgesiche.
 - sbalzi pressori spontanei o posturali
 - cardiopalmo, disturbi gastrointesinali, ecc.
 - disturbi sudorali
 - distrofie cutanee ecc.

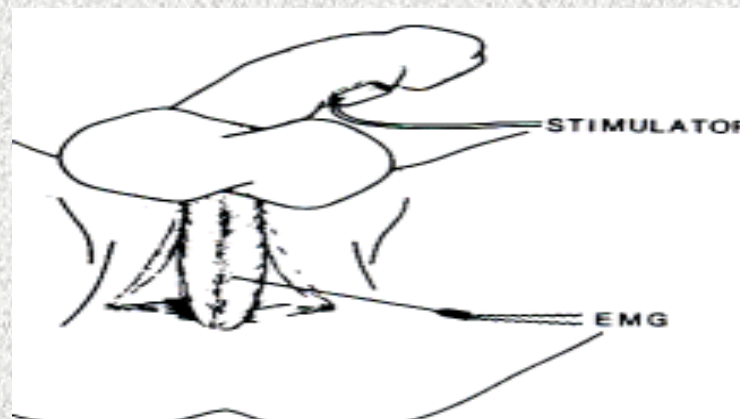
Impotenza NEUROGENA

Valutazioni NEUROFISIOLOGICHE

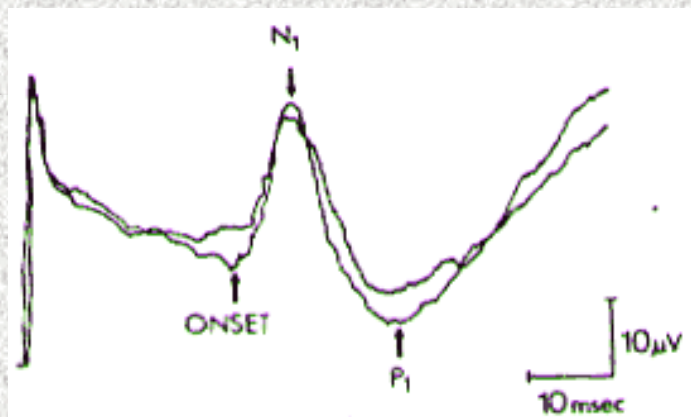
- **Valutazioni extragenitali:**
 - **somatiche:** standard (sec. Protocollo)
 - **autonomiche:** prove cardiovascolari, RSC
- **Valutazioni locali:**
 - **somatiche:**
 - vie afferenti: VCS n.dorsale del pene, biotesiometria, sens. termica.
 - vie efferenti: EMG, BCR, riflesso anale, PEM
 - **autonomiche:**
 - ortosimpatiche: RSC, RVM,
 - parasimpatiche: txt farmacologici, VSS , EMG m.cavernoso, device vacuum(?)

Valutazioni somatiche riflesse

- Riflesso bulbocavernoso
anale
clitorido-anale:

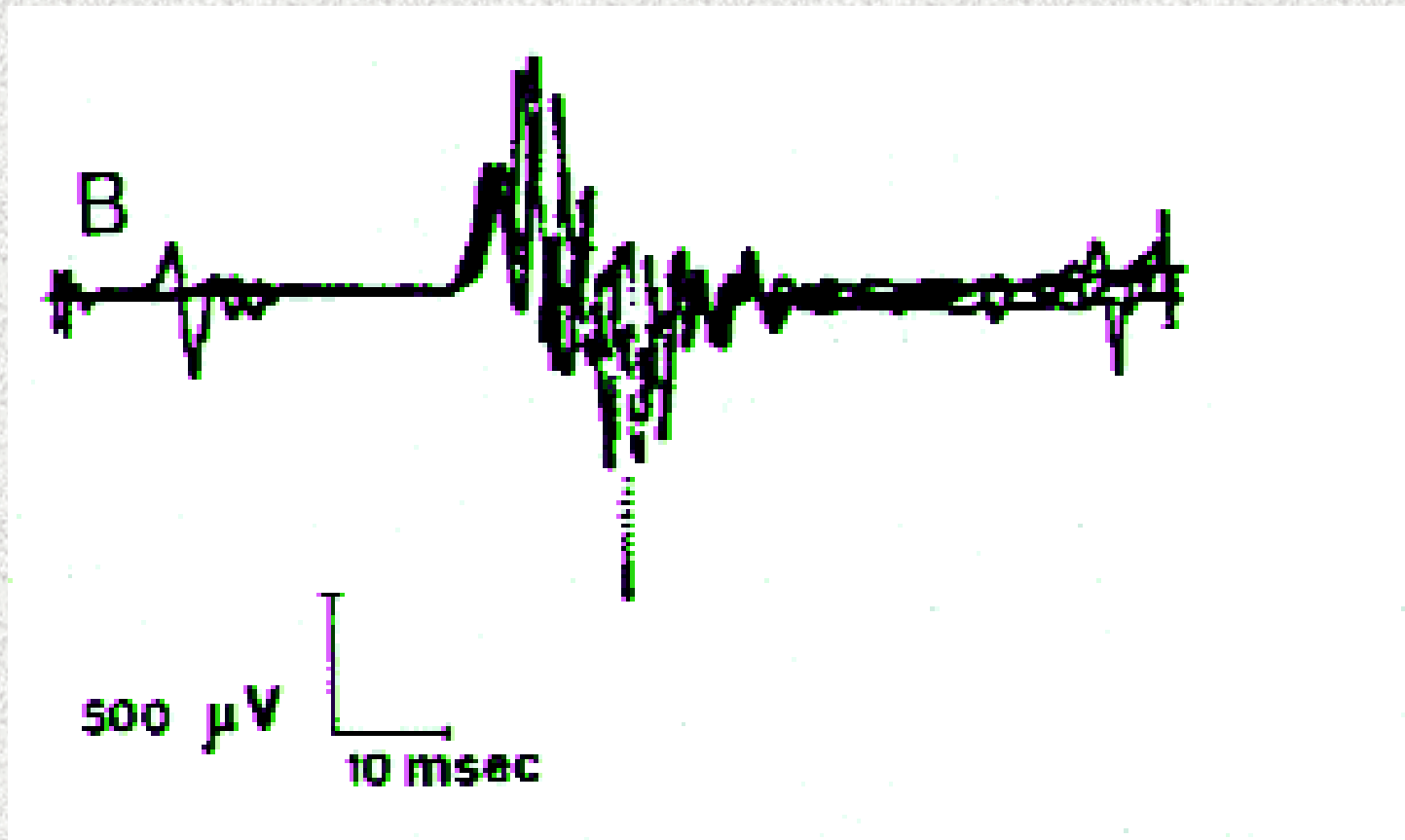


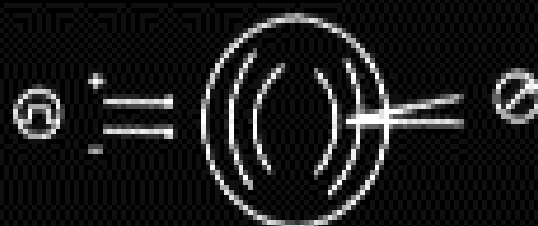
- stimolo: nervo dorsale del pene (clitoride), cute anale, perineo
- registrazione: m. bulbocavernoso, sfintere anale
- average o singolo sovrapposto // 10 uV/div; 10 msec/div



Autore	onset (msec)
Lavoisier	36,1 (7,48)
Parys	20-41
Ertekin	<42,5
Herbaut	35 (3,77)

Riflesso ano-anale





200 μ V
10 ms

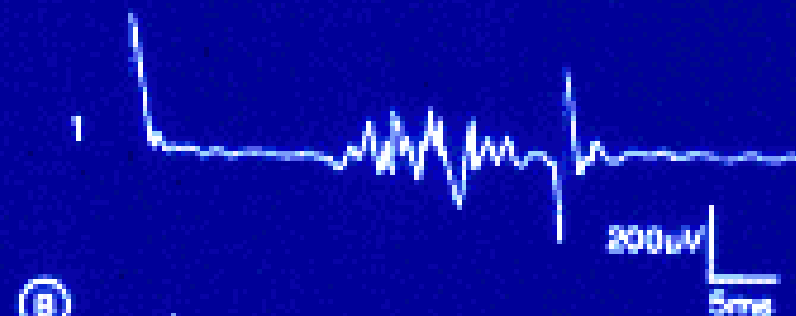
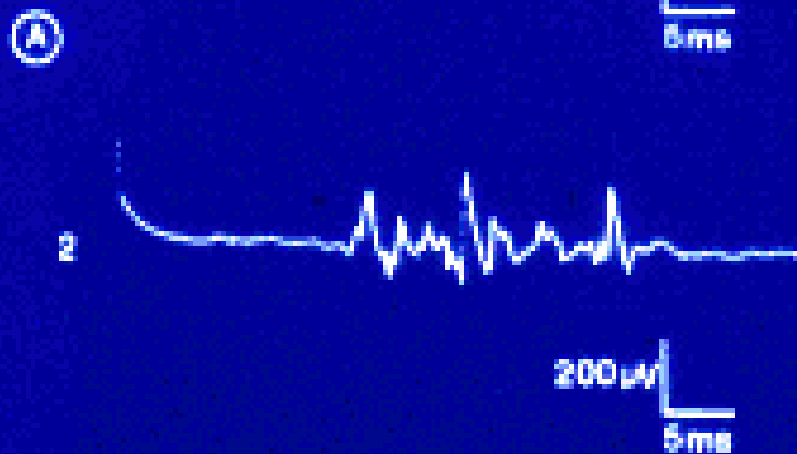
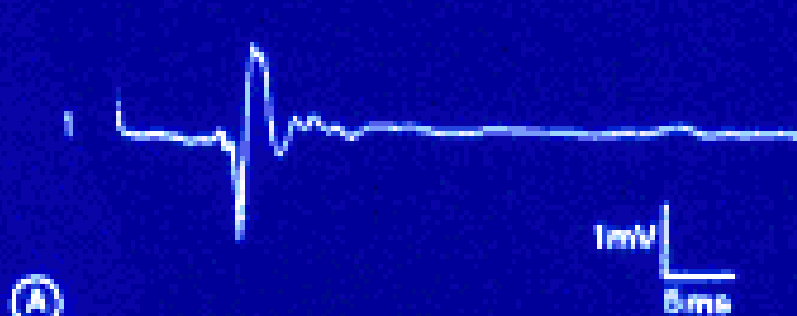


B₂



100 μ V
10 ms

100 μ V
10 ms

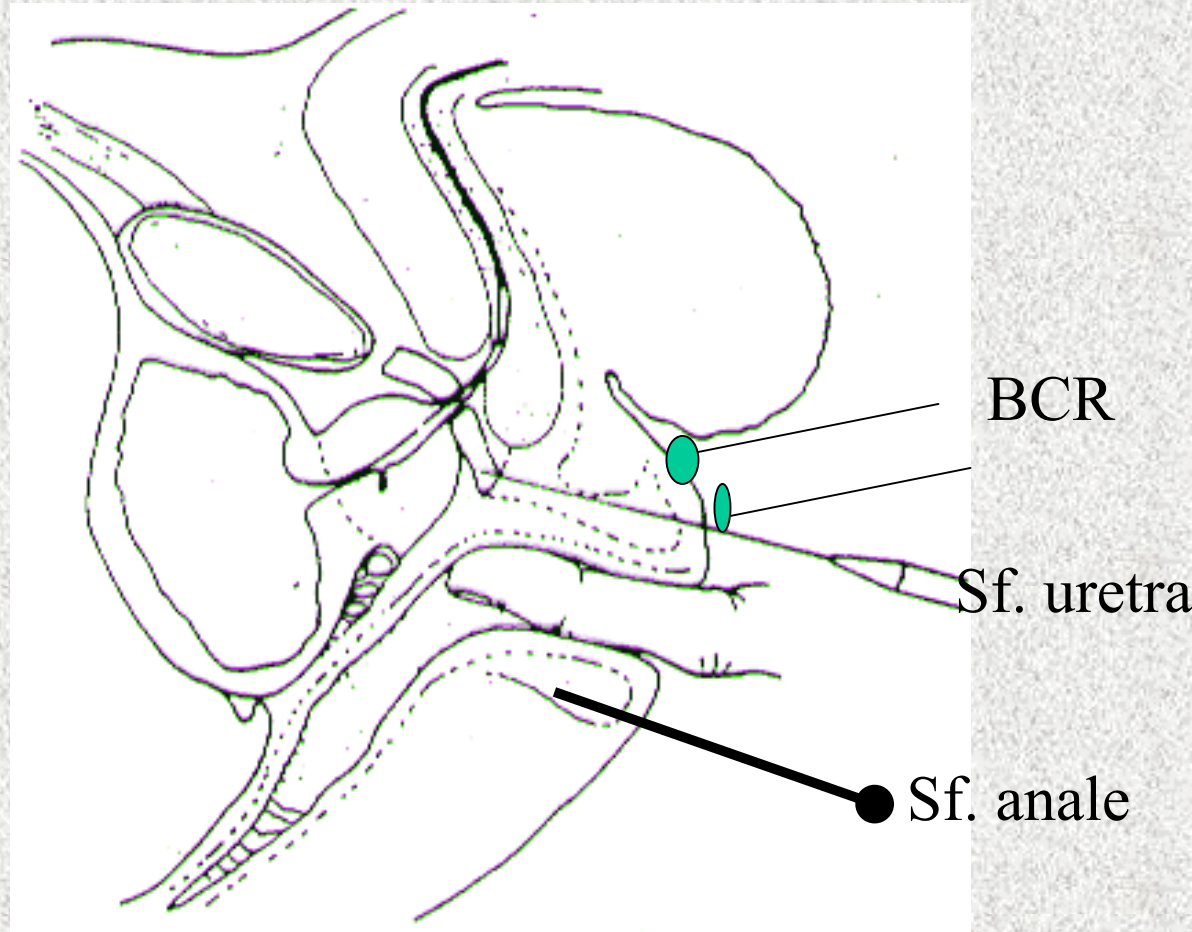


Valutazioni somatiche efferenti

- **EMG m bulbocavernoso**
- **mm sfinterici**

A) interferenza

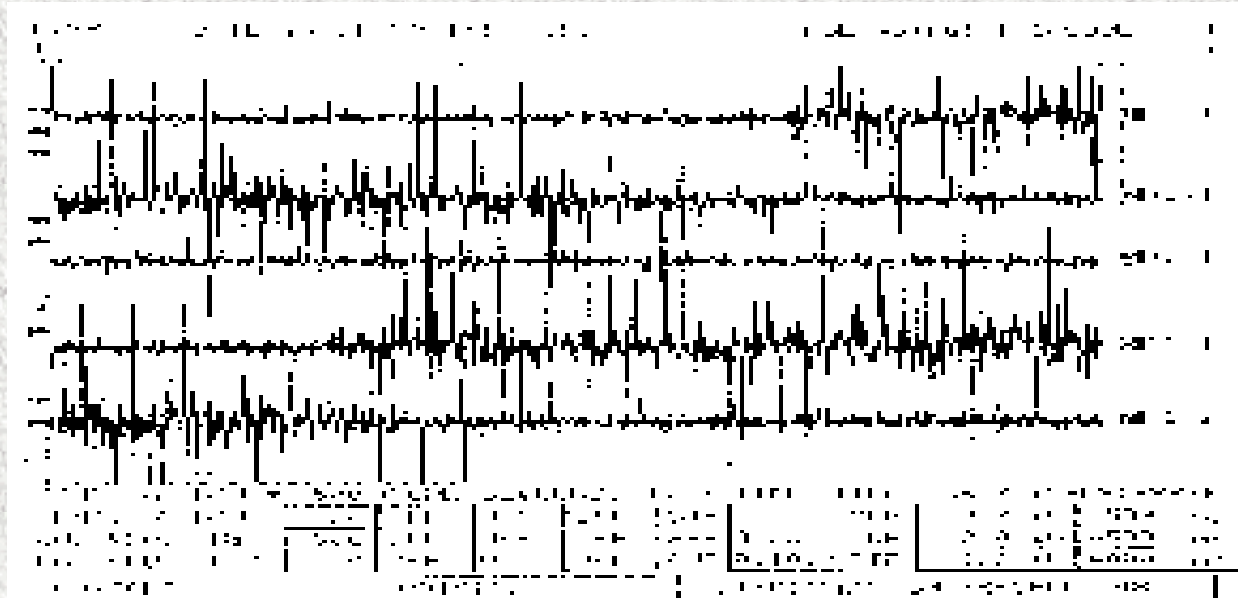
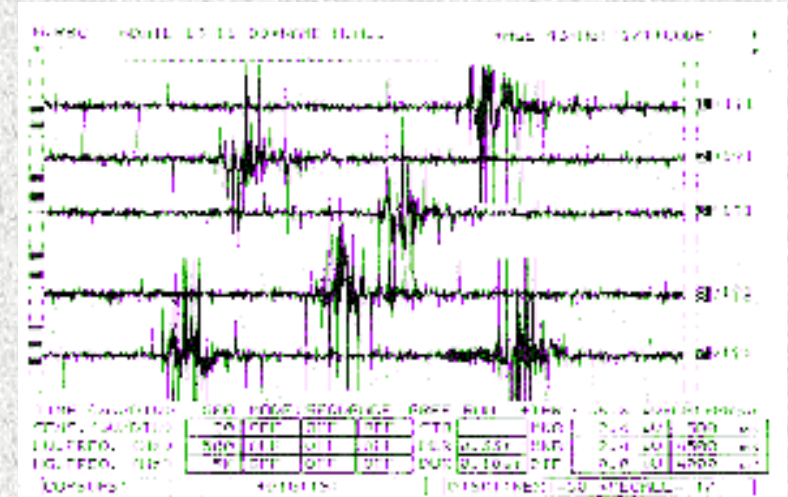
B) attività
di fibrillazione



Valutazioni somatiche efferenti

- **EMG mm sfinterici**

**C) sinergia: respiro; tosse;
Valsalva; minzione;
defecazione (tentativo!); altri
muscoli**



EMG sfintere anale

- PUM
200uV/div



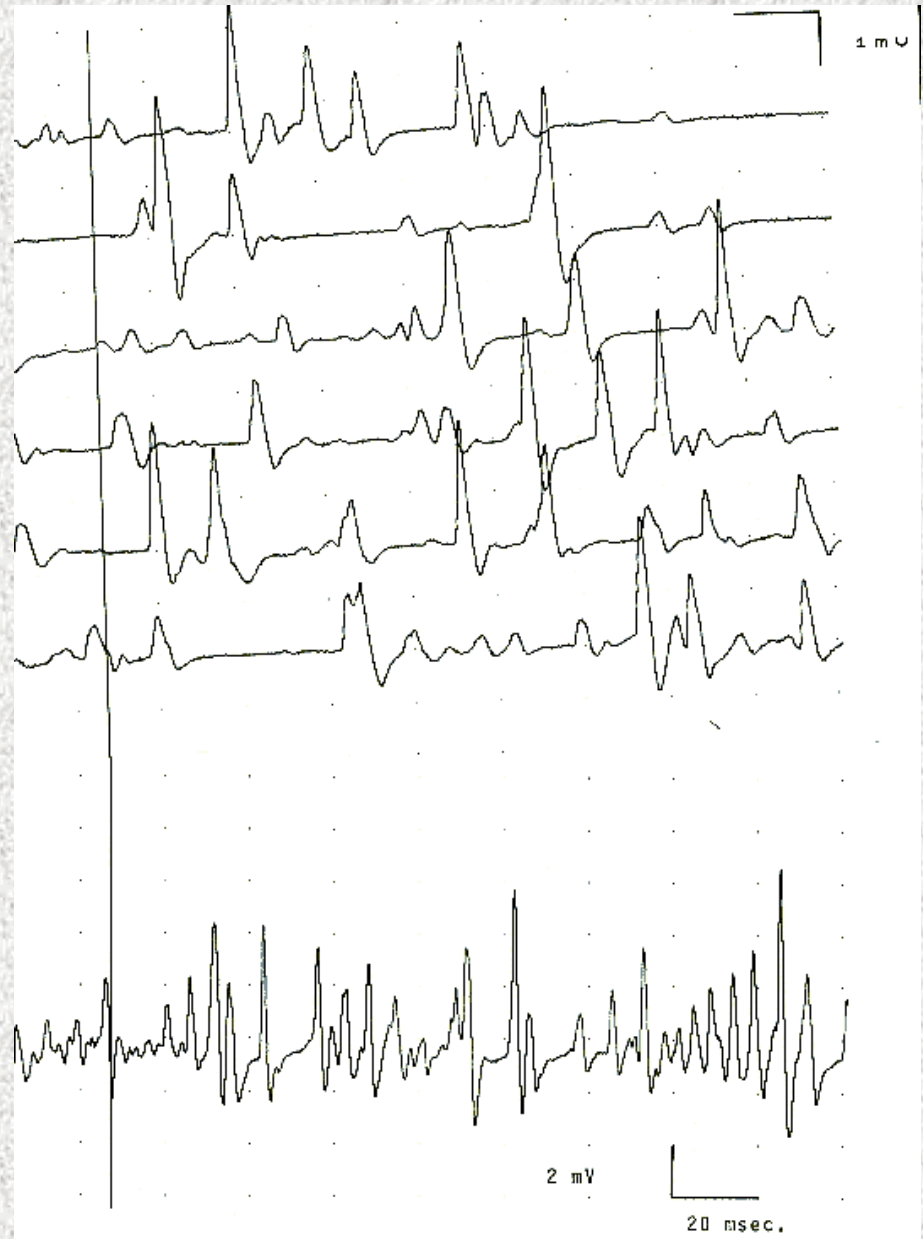
- Interferenza

EMG sfintere anale

- PUM

1 mV/div

- Interferenza



Valutazioni somatiche efferenti

- **Potenziali evocati MOTORI**

SM vertice e lombare
registrazione: m.

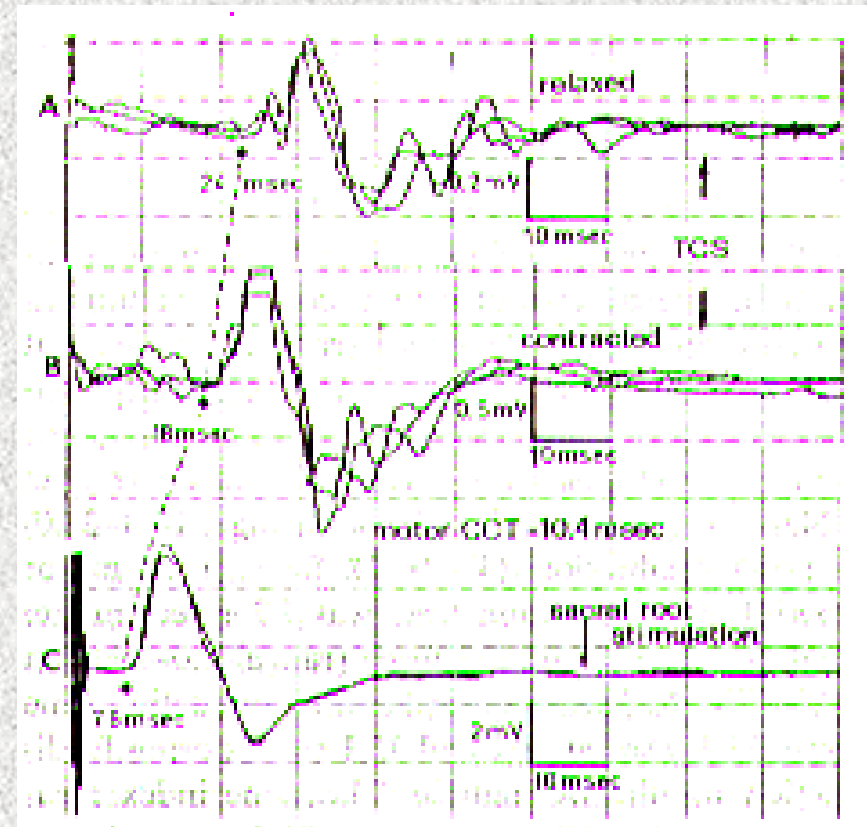
B.C. / anale

TCT:rest 28,8(2,6) / 30 (4,4)

cont. 22,5(2,7) / 2,8 (3,6)

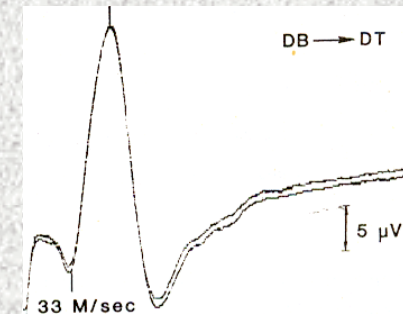
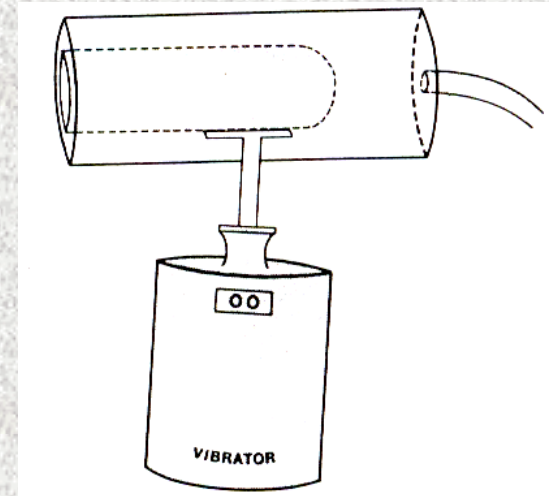
CCT:rest 22,4 (1,7) / 21,2 (4,6)

cont. 15,1 (3,1) / 12,4 (2,9)



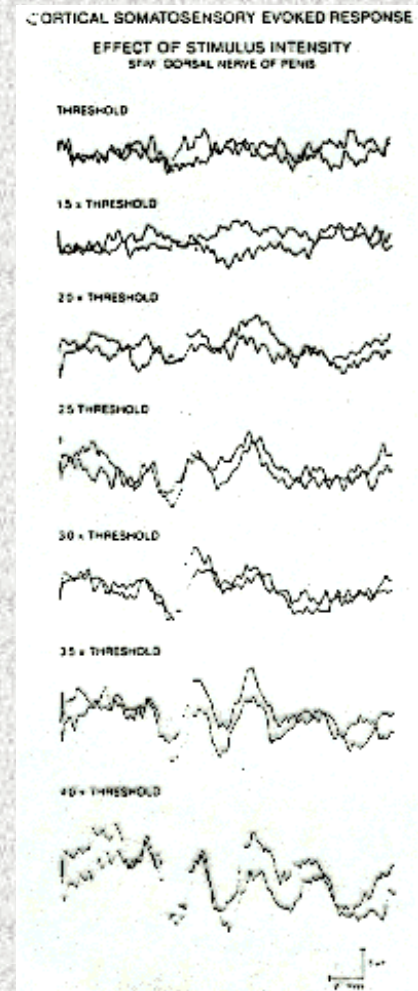
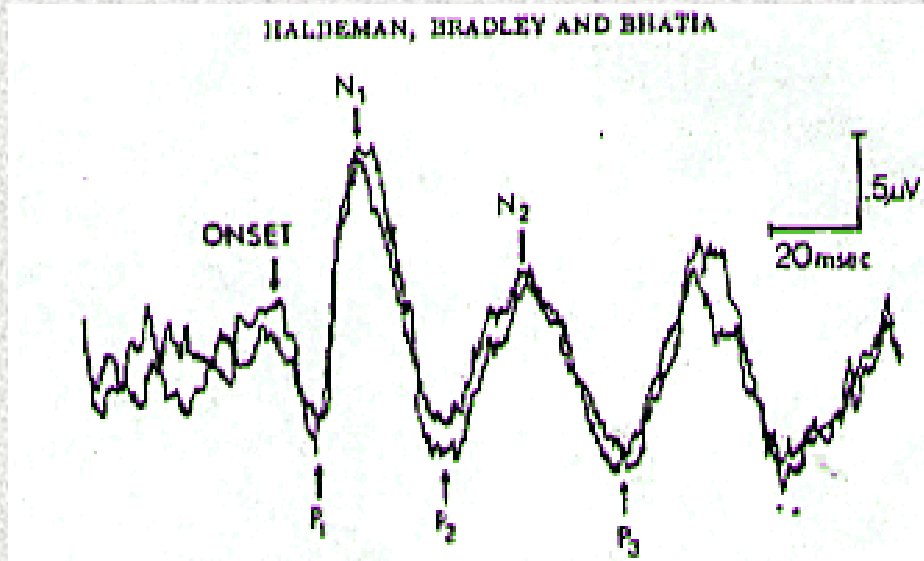
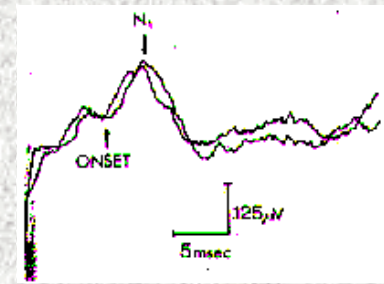
Valutazioni somatiche afferenti

- Biotesiometria
- Sensibilità e soglia termica
- Soglia tattile
- VSC n.dorsale del pene
 - vel $38 \pm 5 \text{ m/s}$
- PESS n. dorsale pene
 - o n. dorsale clitoride



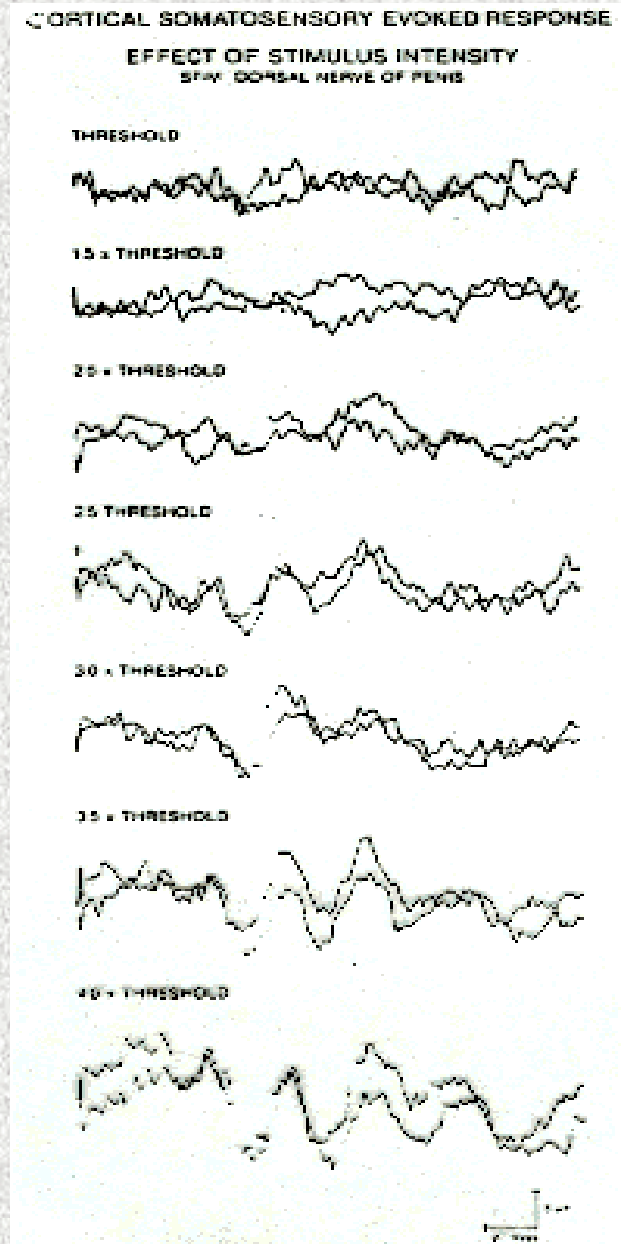
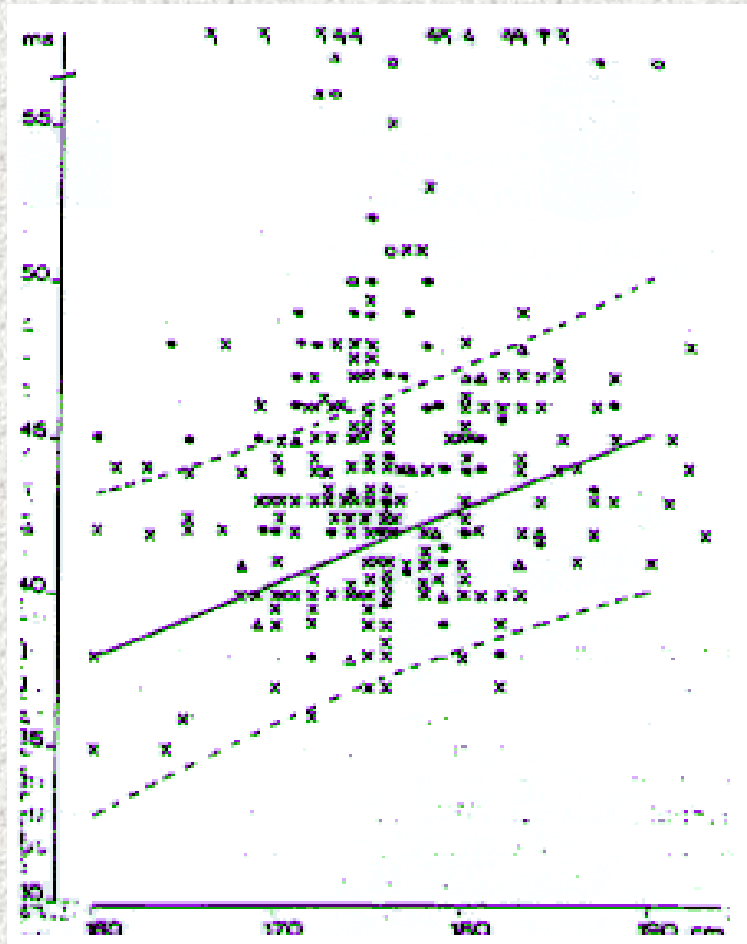
Potenziali evocati sensitivi

- **Stimolo:** n.dorsale del pene (anelli o placche)
 - 3 fino a 1 Hz; 3 x soglia sensitiva; dur 200 us
- **Registrazione:**
 - **lombare** (L1-S2): N lombare <12,5 msec;
 - **corticale** (Cz - Au dx e sn): onset, P1, N2



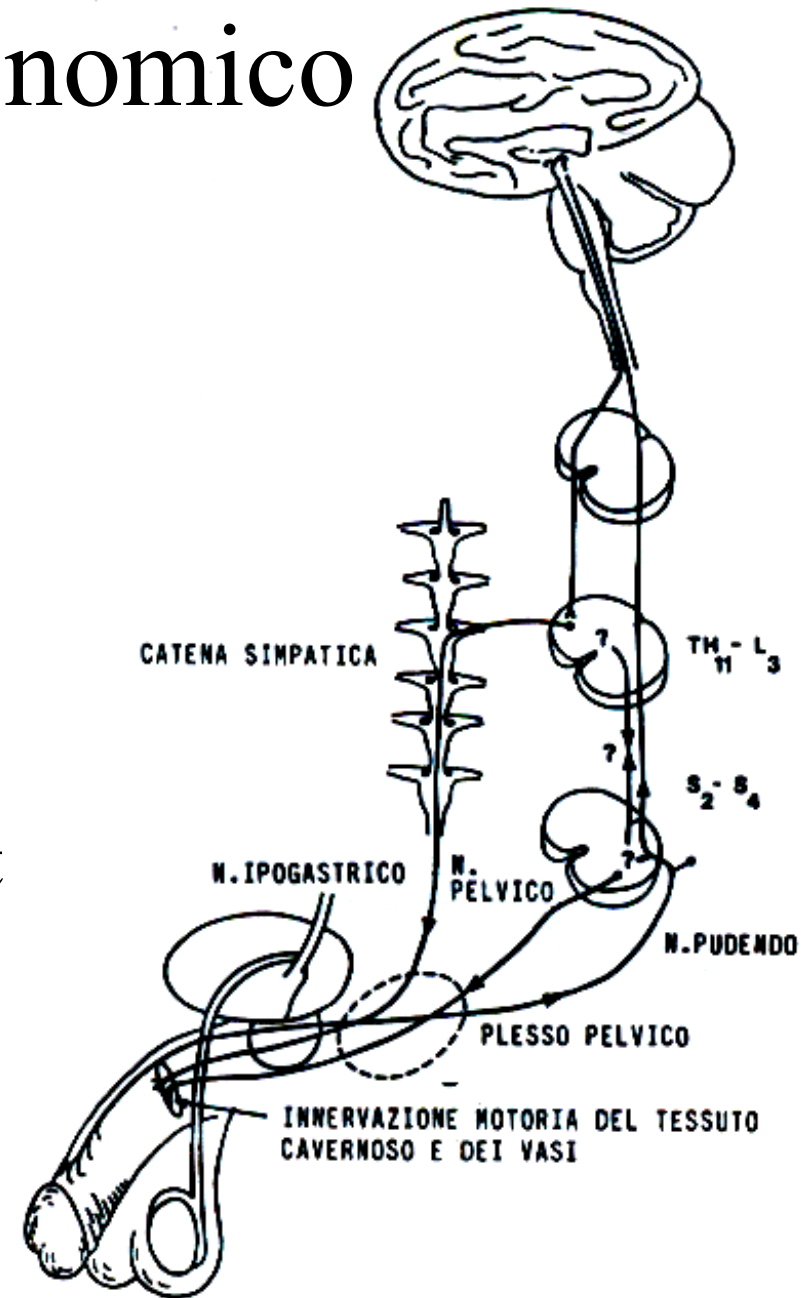
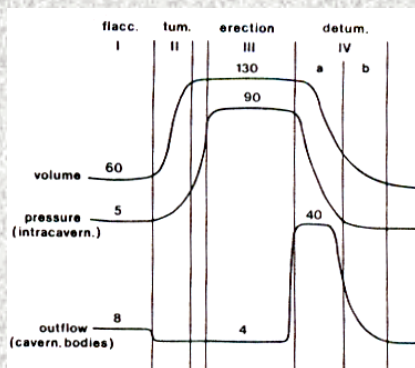
Autore	P1	N1
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- Haldeman 41,9 (1,4) 52,7 (2,5)
- Opsomer 43,4 (2,9) 55,0 (4,1)
- Tackman 41,7 (2,8) 53,1 (3,0)



Sistema autonomico

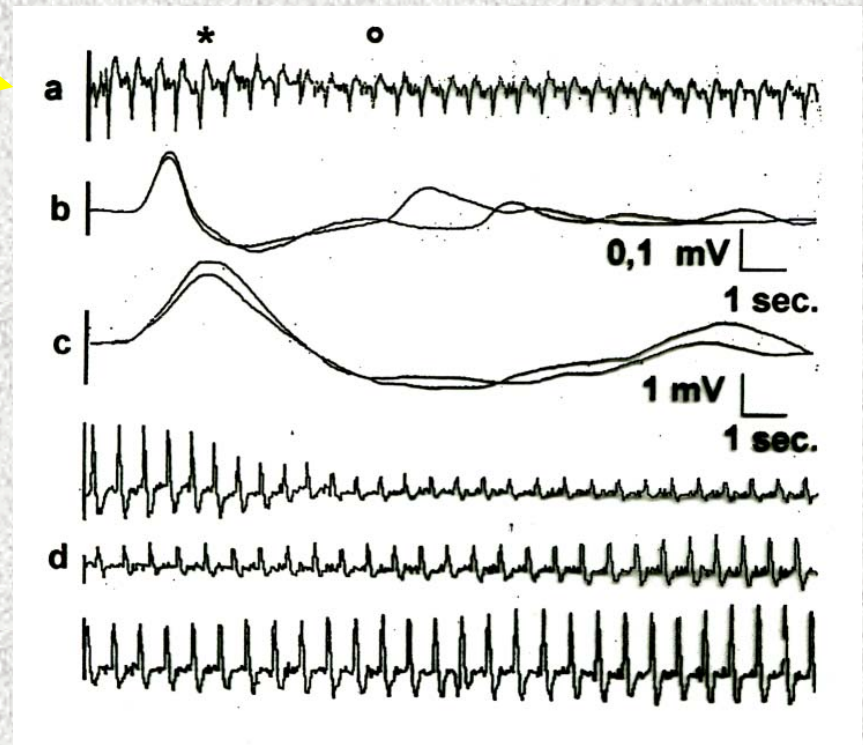
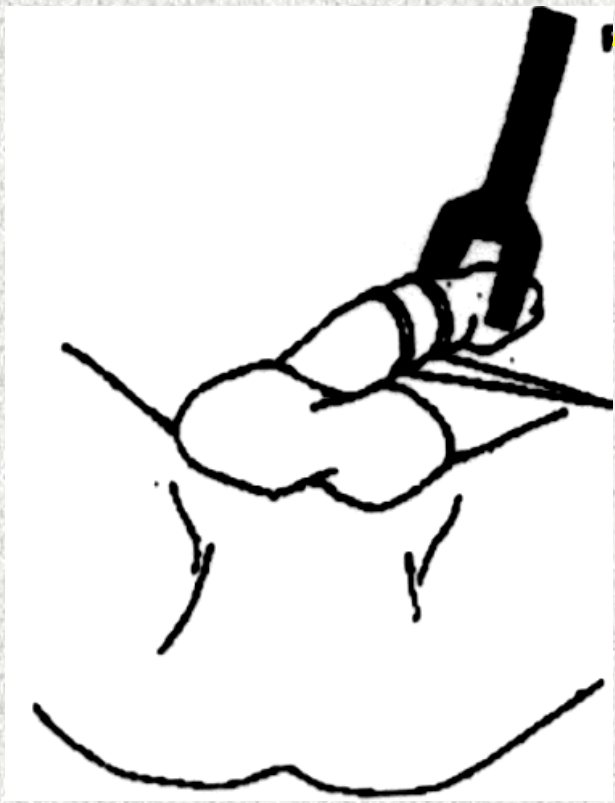
- Ortosimpatico:
 - L1-L2 nn splancnici
 - nn erigentes
- Parasimpatico:
 - S2 - S4 plesso vesc/prost
 - nn erigentes



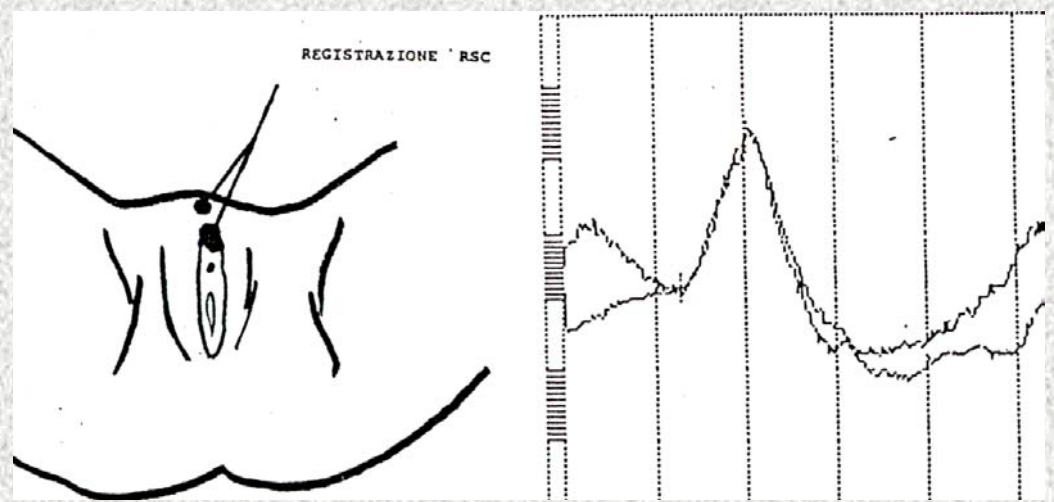
Risposta simpatico-cutanea

- Stimolazione: n. mediano o tib. Posteriore
 - treno di 7 stimoli random; sovrasoglia motoria
- Registrazione: asta del pene; perivulvare
 - filtri 0,1-20 Hz; 1 sec/div; 100uV/div

Pene 1,47 sec (0,3) - 0,9 mV (0,3?)



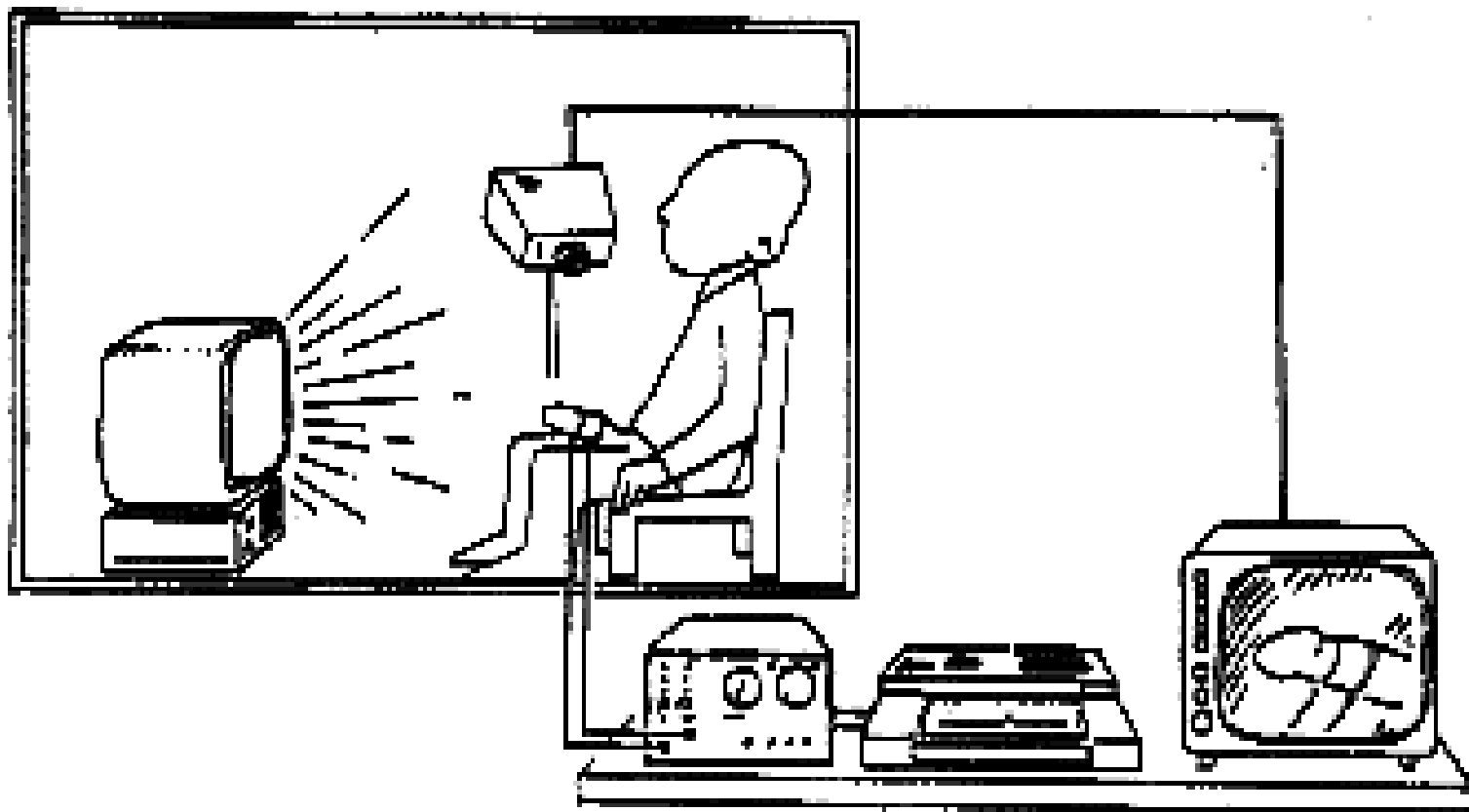
RVM
RSC



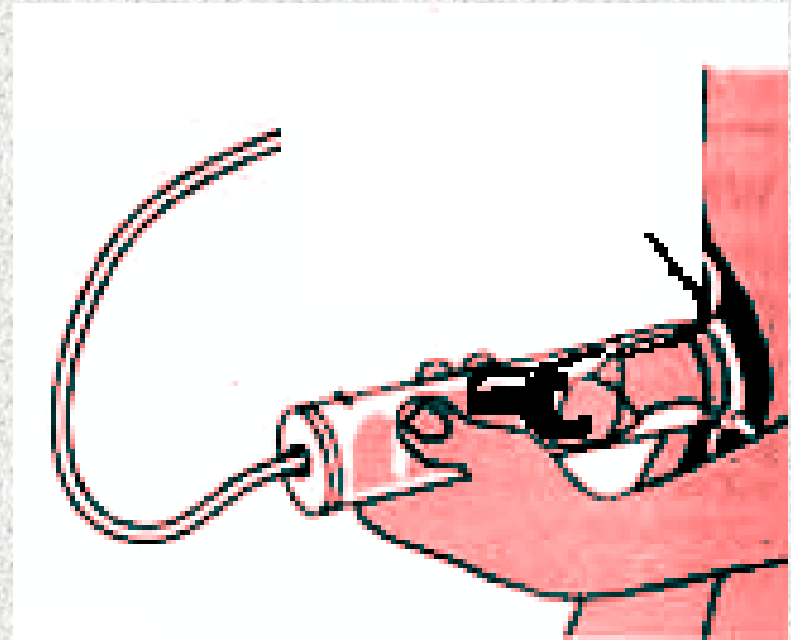
Sistema parasimpatico

M. LISCIA	I	II	III	IV
Pads arteriosi	+	-	-	+
Shunts A-V	-	+	+	-
M. cavernosa	+	-	-	+
Pads venosi	-	+	+	-

Parasimpatico e VSS



Device vacuum



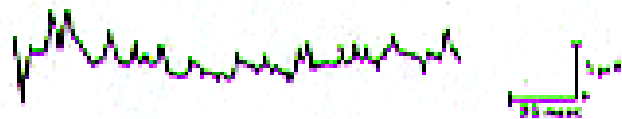
USO clinico-pratico

- Valutazioni indaginose
- Falsa negatività
- Indicazione clinico-anamnestica chiara
- **Pazienti con SNV diffusa alterata**
- **Pazienti senza correlati**
- non ci sono elementi che ci diano la sicurezza che il disturbo IMPOTENZA sia rapportabile alla patologia di base (DIABETE, MSA ecc)

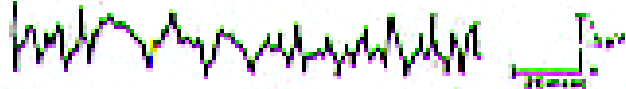
VIAGRA sildenafil

- 3 mesi 56%+ 10% placebo
- 1 aa 61%+ 22% placebo
- eff. Col. 22% e 1%

Cortical SER (Posterior Tibial)



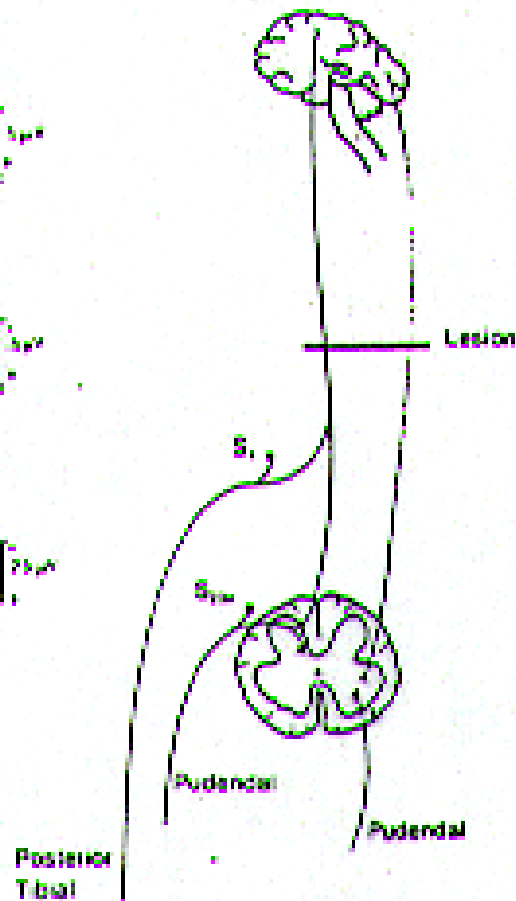
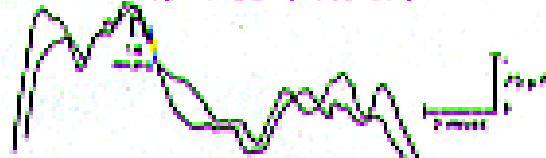
Cortical SER (Pudendal)



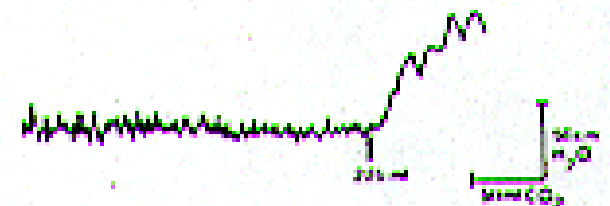
Spinal SER (Posterior Tibial)



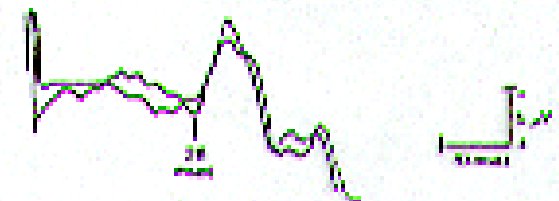
Spinal SER (Pudendal)



Cystometry



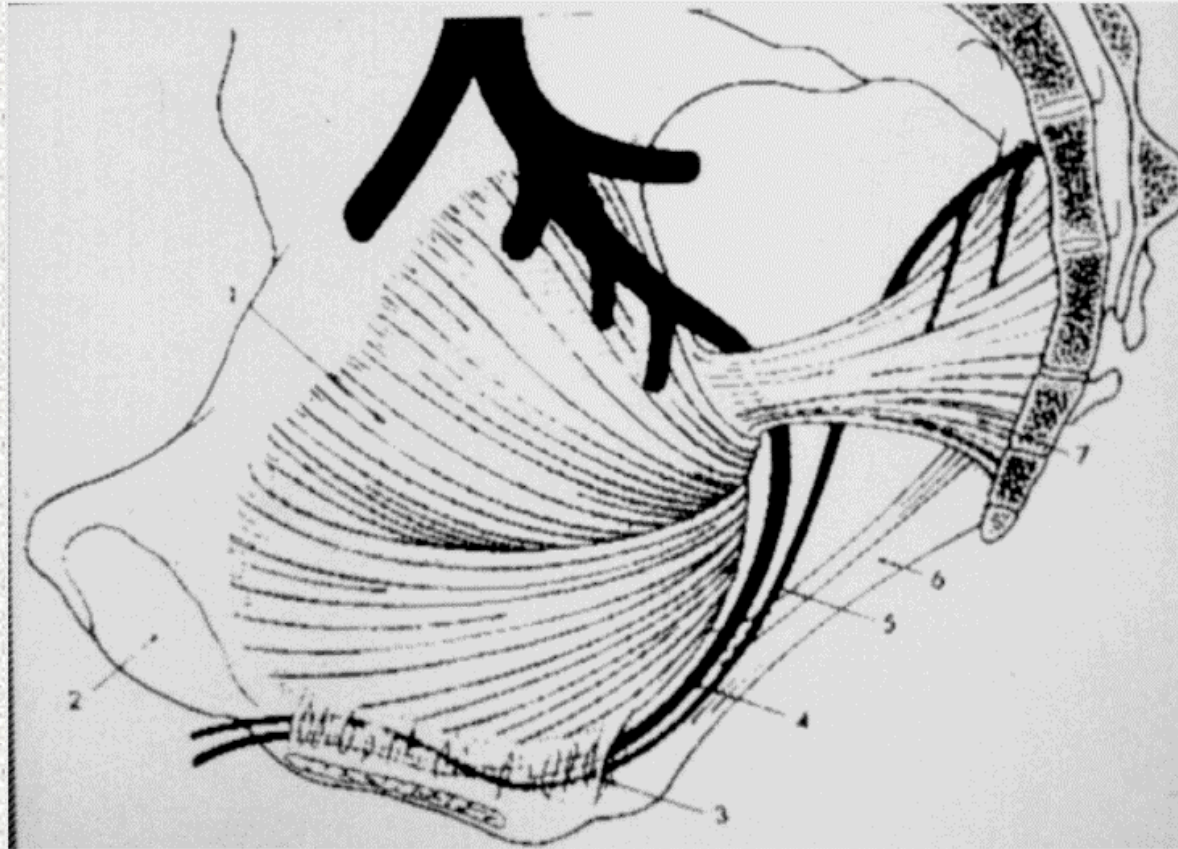
Bulbocavernosus Reflex



Dolore perineale

- Valutazione clinica:
 - aspetto dermatologico
 - palpazione (emorroidi, cisti ecc.)
 - localizzazione: coccidodinia (evento traumatico)
 - irradiazioni:
 - n. pudendo (scroto, perineo, asta..)
 - n. sensitivo post. coscia (scroto, perineo, faccia post. coscia, **poplite**)

- Valutazione neurofisiologica:
 - BCR, pess n. dorsale del pene (solo se neuropatia del pudendo)



Sind. del canale di Alcock