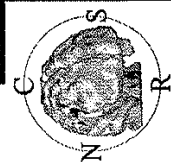
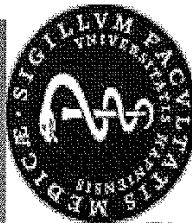
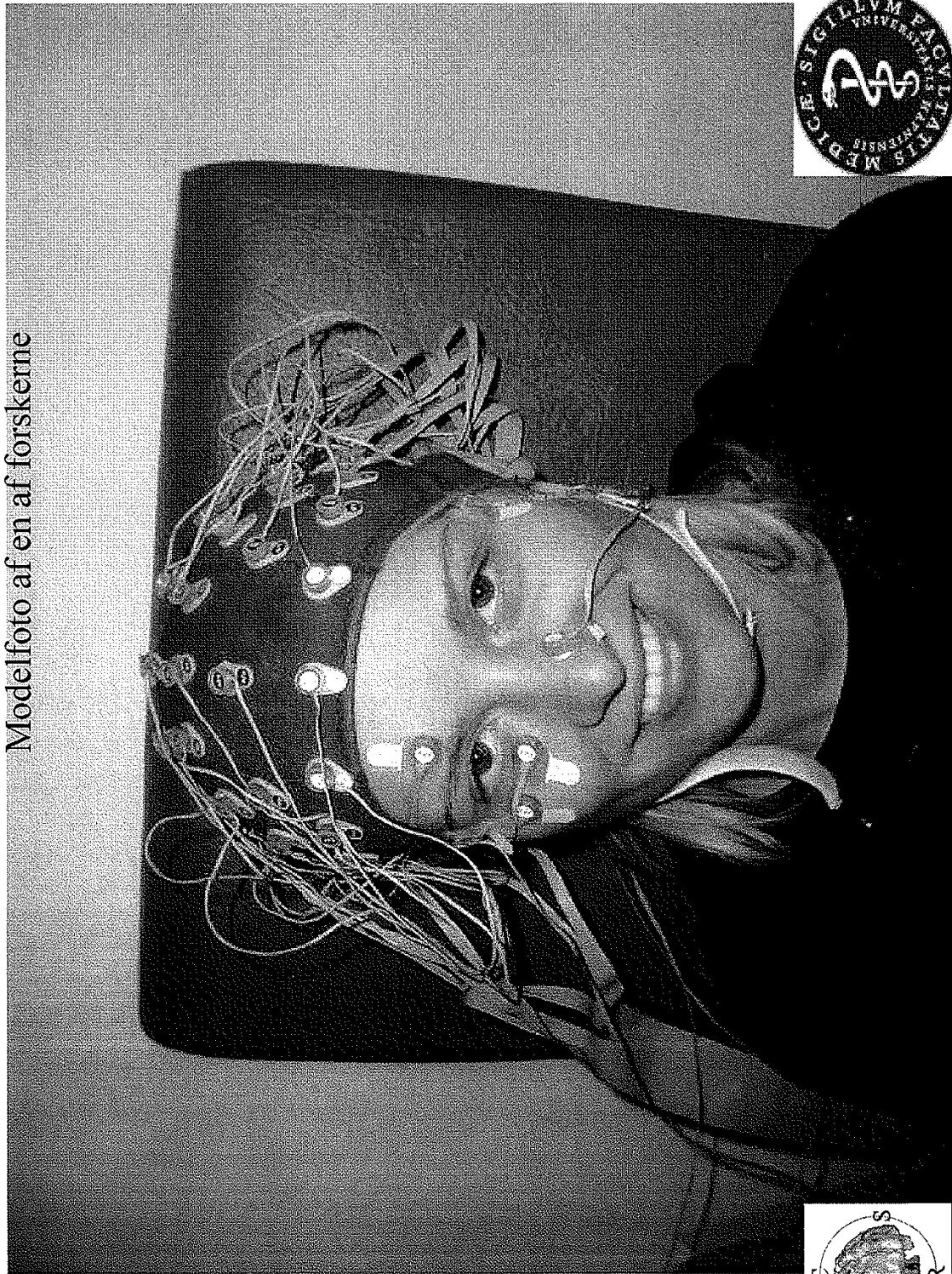




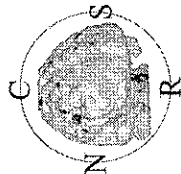
Psykiatri

Psykofysiologisk undersøgelse

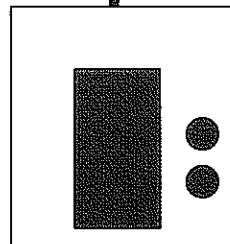
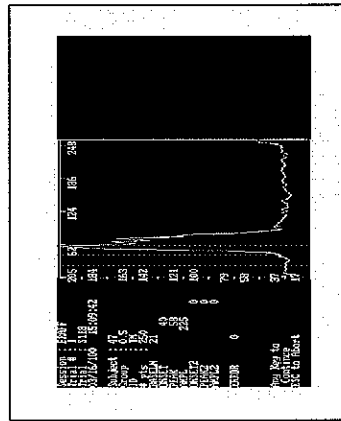
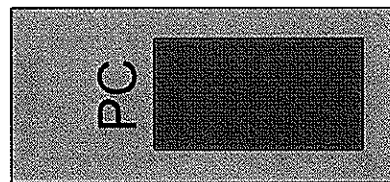
Modelfoto af en af forskerne



Akustisk startle system:

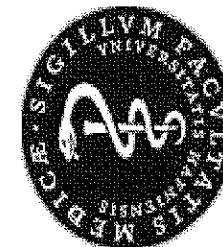
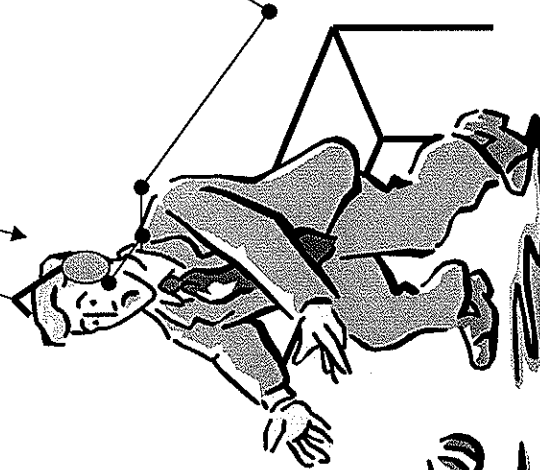


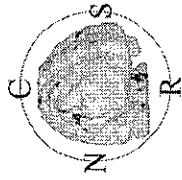
Startle respons



Lydsignal

EMG signal

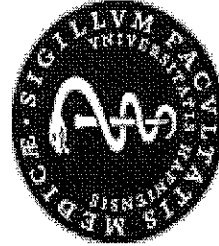
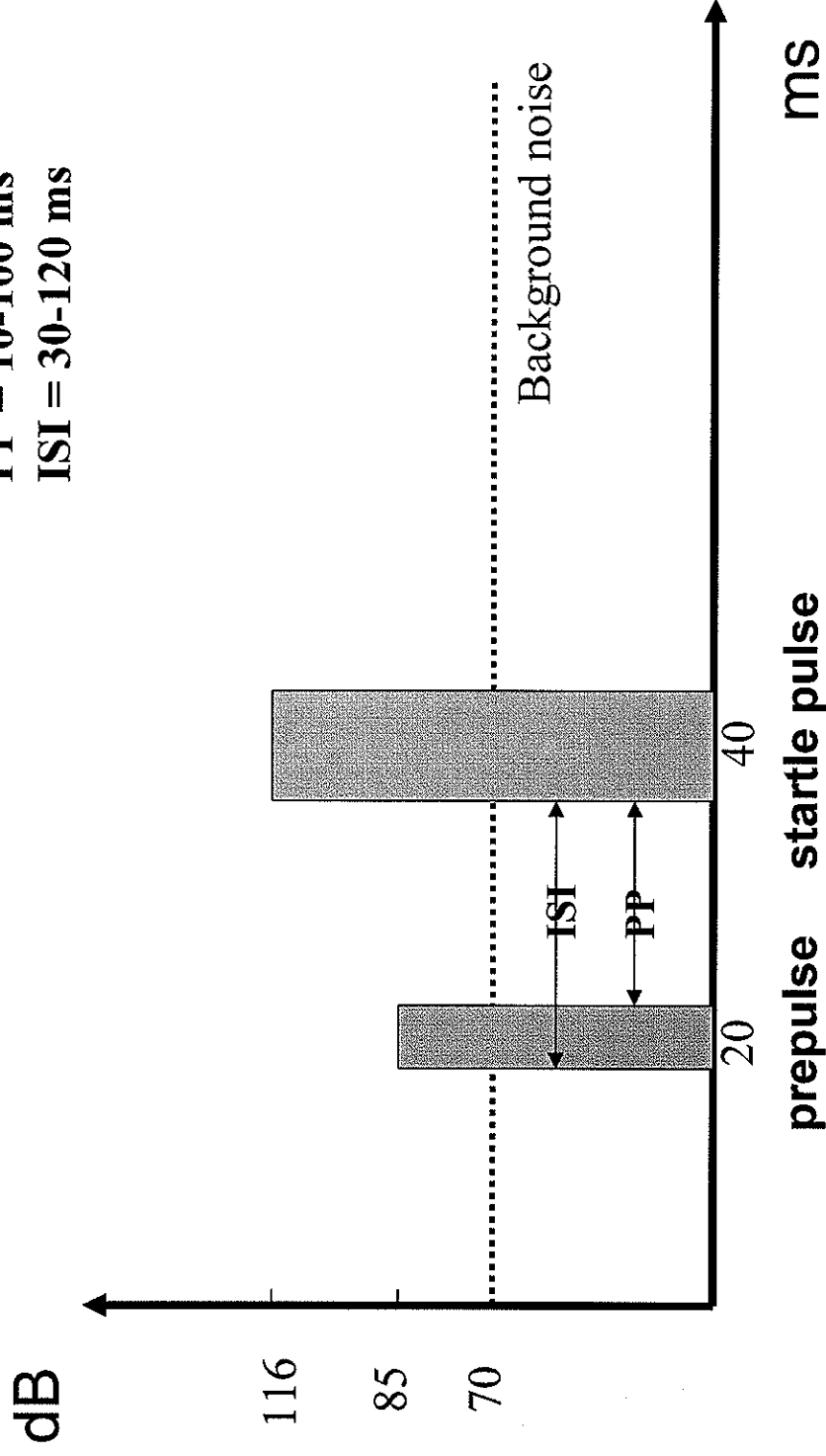




PPI

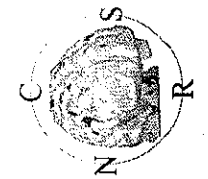
PP = 10-100 ms

ISI = 30-120 ms

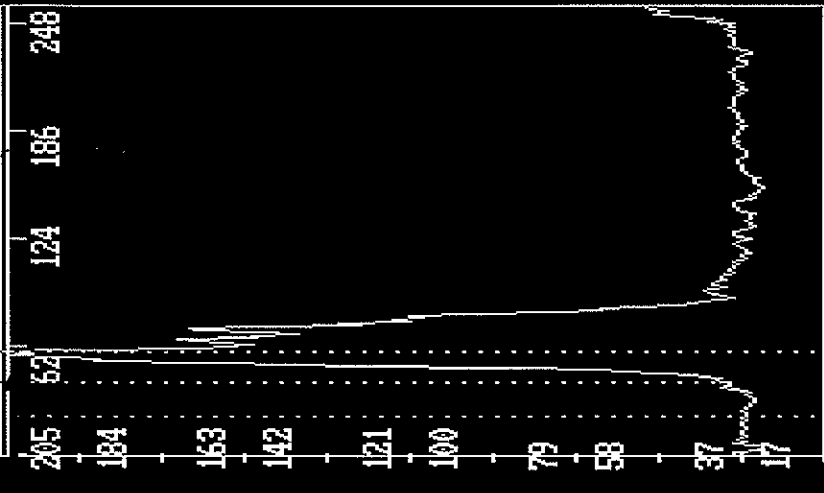




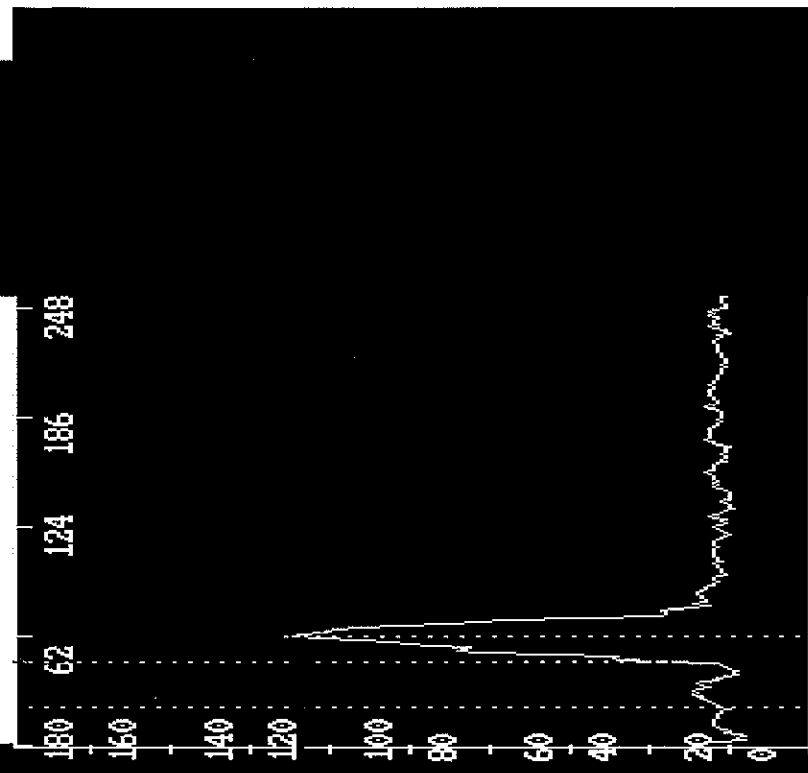
1 unit = 0,78 μ V



PPI = 47,6%

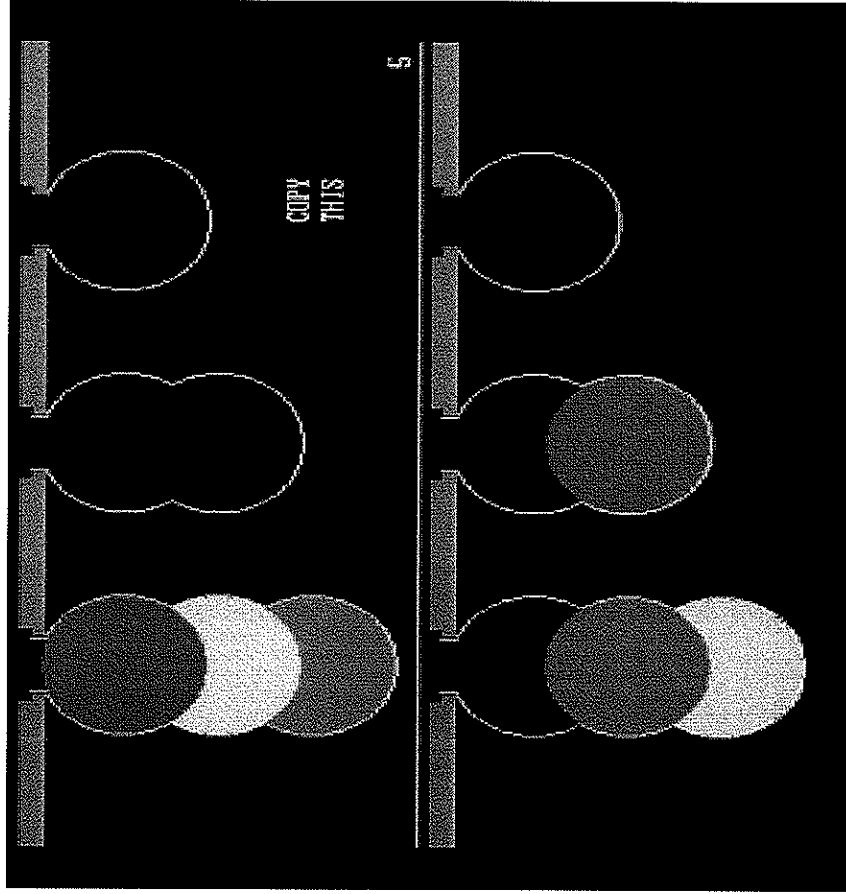
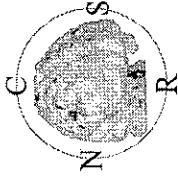


Pulse-alone amplitude:
Baseline: 21 units
Latency to onset: 40 ms
Latency to peak: 58 ms
Peak amplitude: 225 units
Baseline corrected peak amplitude: 204 units

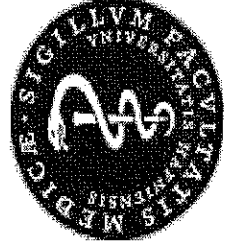


Prepulse₁₂₀-Pulse amplitude:
Baseline: 22 units
Latency to onset: 46 ms
Latency to peak: 61 ms
Peak amplitude: 129 units
Baseline corrected peak amplitude: 107 units

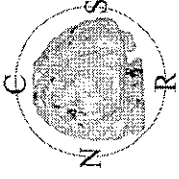
Stockings of Cambridge: Fra CANTAB batteriet



- Spontan fleksibilitet
- Baseret på Tower of London
- Tester evnen til at løse problemer effektivt ved selv at danne og udføre spatiale planlægningsstrategier
- Mål: Effektivitet af planlægning på forskellige niveauer, planlægningstid og udførelsestid



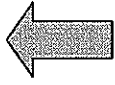
Hvordan virker medicinen? Signalstofsystemer



Psykotiske symptomer



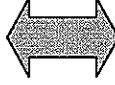
Medfødt disposition til skizofreni



Informationsbearbejdning



Aktivitet / fysiologi



Signalstofsystemer

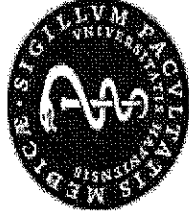


Anatomi / struktur

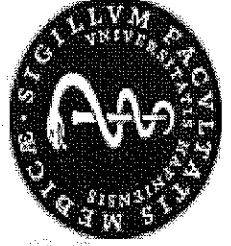
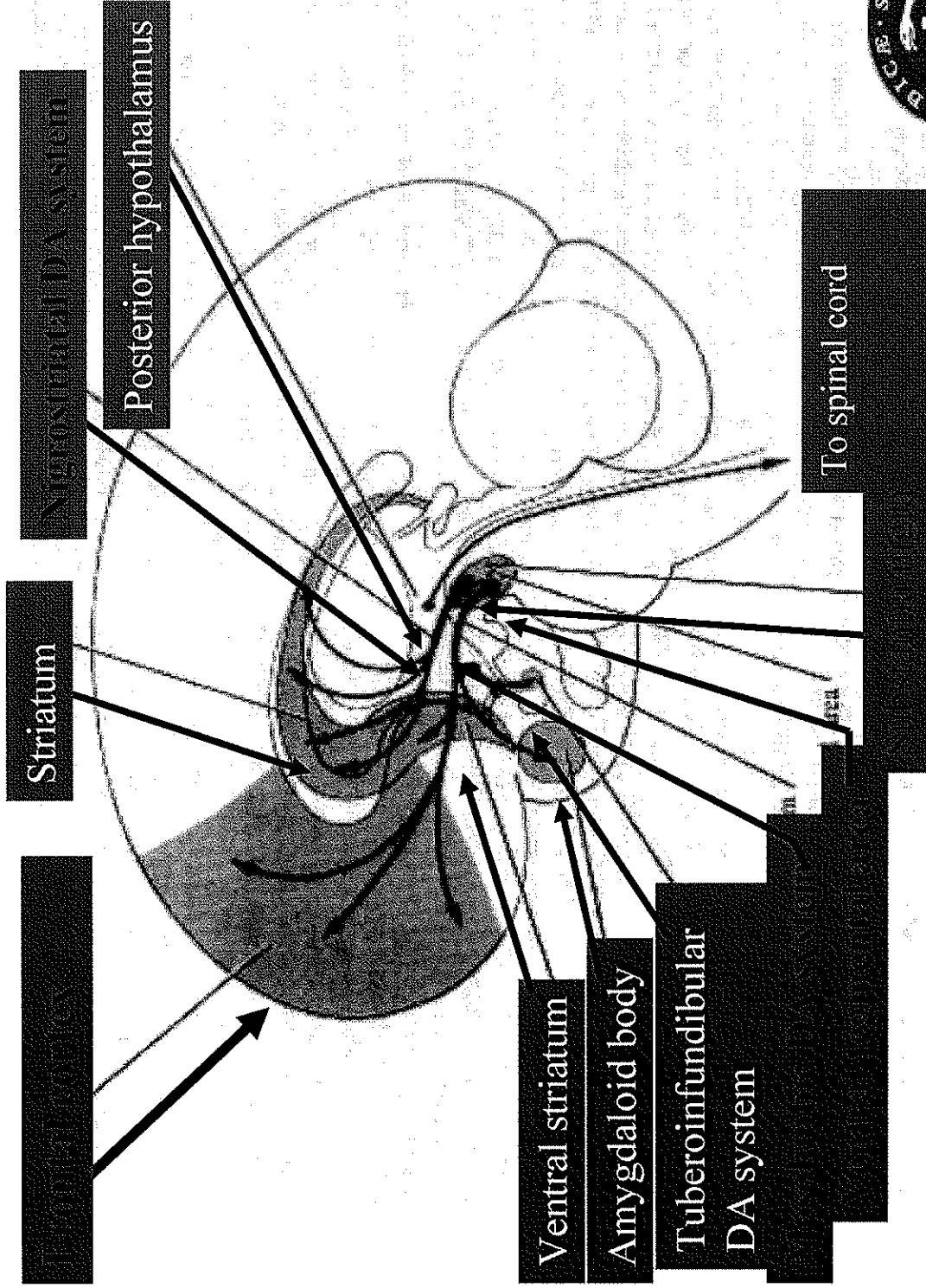
Årsager:
Gener
> 80 %

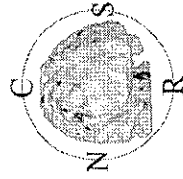
Antipsykotika

Årsager:
Miljø
< 20 %



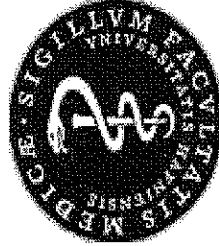
Dopaminsystemet

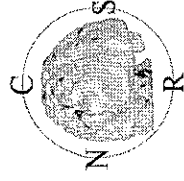




Dopaminsystemet

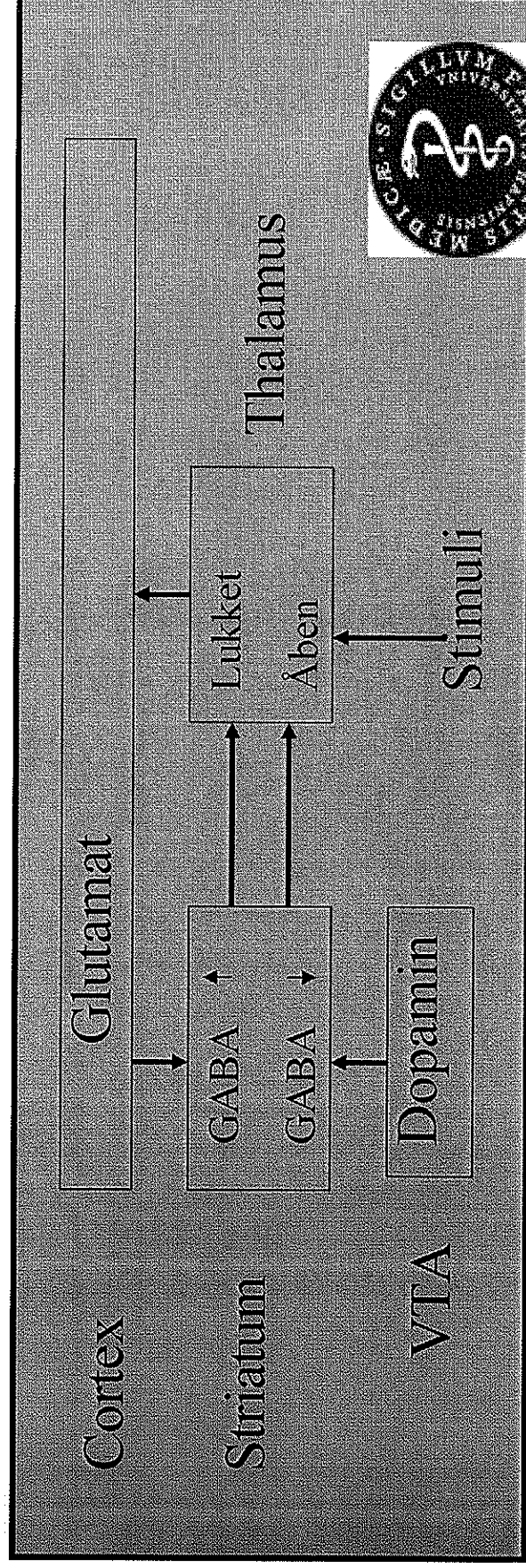
- **Vigtigt for signal/støjforholdet, når vi modtager indtryk (evnen til at sortere indtryk)**
- **Det limbiske dopaminsystem aktiveres af alle indtryk, der er vigtige for organismen:**
 - Mad
 - Sex
 - Fare
 - Musik
 - Alle misbrugsstoffer





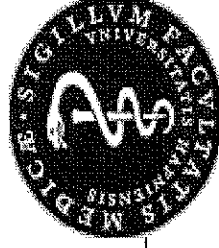
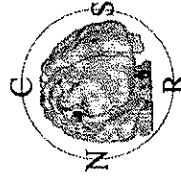
Transmitterdysfunktion og informationsbearbejdning: Den subkortikale hypotese

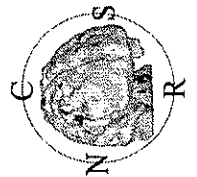
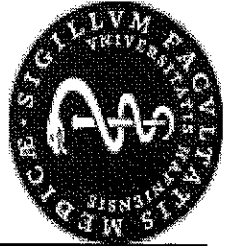
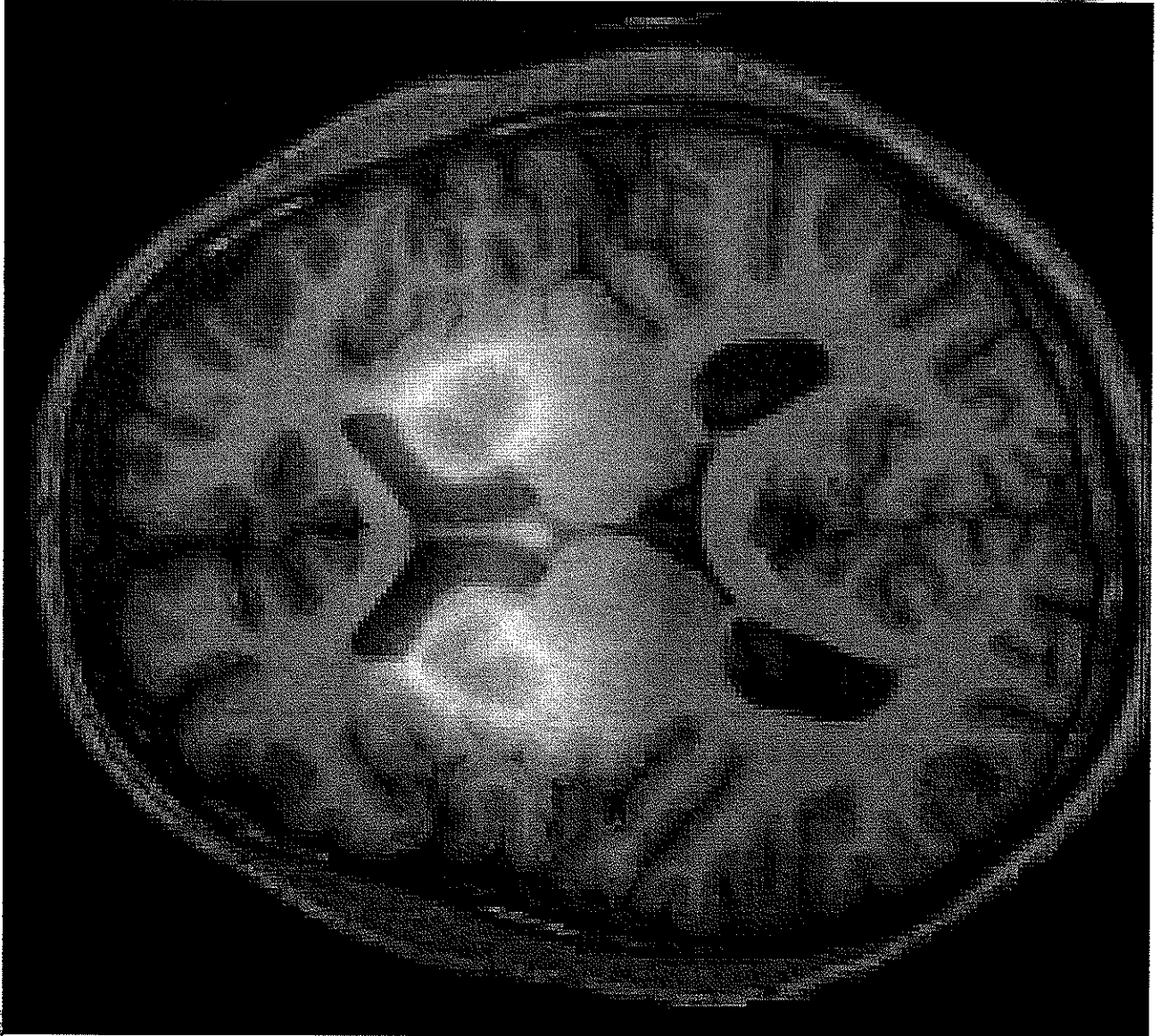
”Filterhypotesen”: Dysfunktion i de kortiko-striato-thalamo-kortikale netværk med fokus på limbisk/subkortikal dopaminhyperaktivitet og kortikal glutamaterg dysfunktion (**Carlsson, Braff, Glenthøj, Andreassen, m.fl.**)

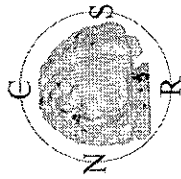


Den kortikale dopaminhypotese

- Forskningen har vist en reciprok sammenhæng mellem dopaminaktiviteten i hjernebarken (kortex) og i de dybere dele af hjernen (basalganglierne). Undersøgelserne peger på, at den kortikale dopaminaktivitet har afgørende indflydelse på aktiviteten i basalganglierne
- *Winterer & Weinberger 2004: "The crucial role for abnormal dopamine signalling in the pathophysiology of schizophrenia involves cortical, and not striatal, microcircuits - and that antipsychotics primarily exerts their therapeutic actions via D2 blockade in cortex"*



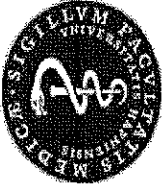
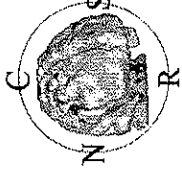




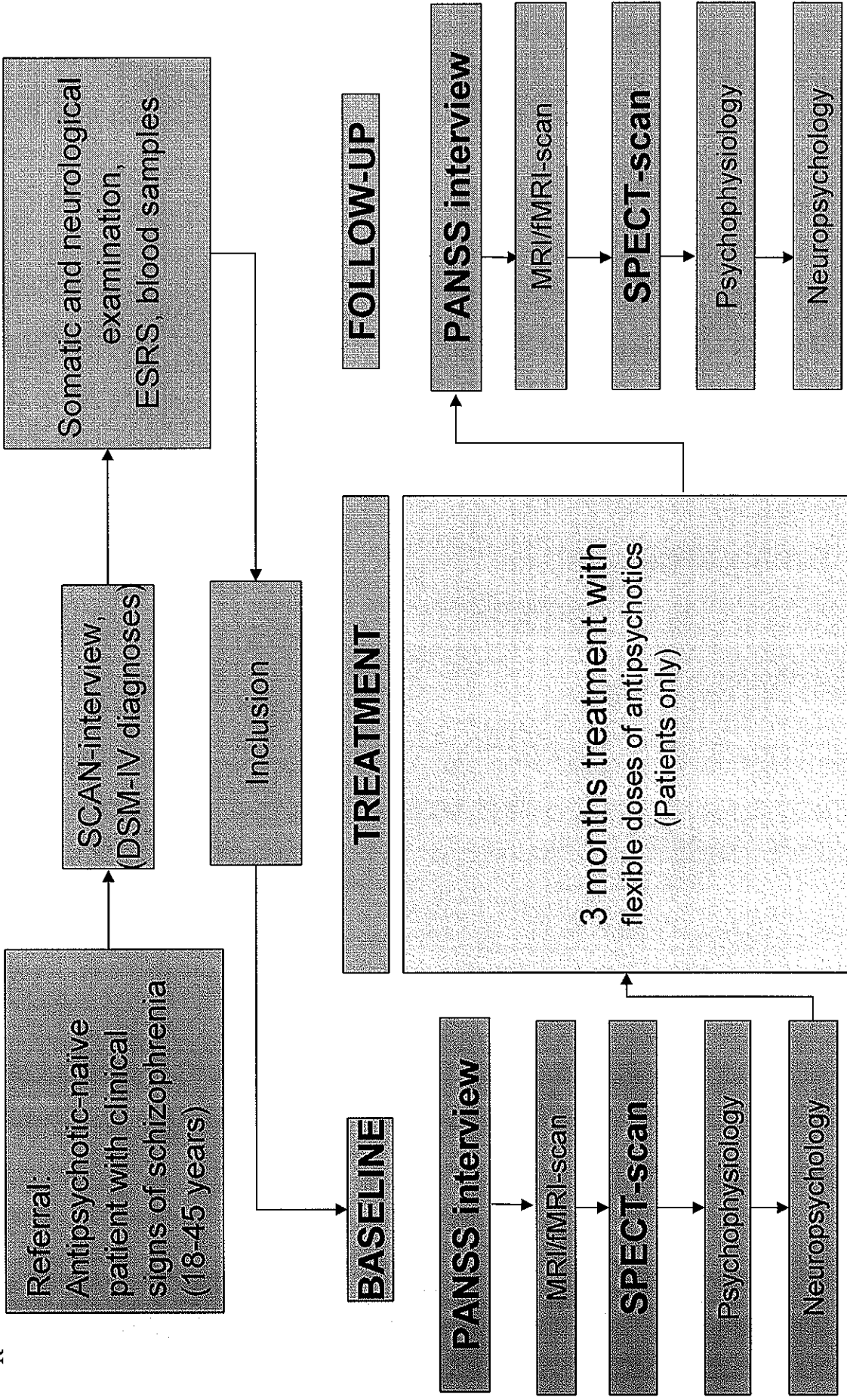
Study	FC (left)	FC (right)	TC (left)	TC (right)	Th. (left)	Th. (right)
Suhara et al 2002^a: [¹¹ C]FLB 457	0.95	0.95	1.79	1.79	3.31	3.31
Patients N = 11						
Controls N = 18						
Talvik et al 2003 [¹¹ C]FLB 457	0.64	0.70	1.08	1.26	3.63 M 2.94 L	3.13 M* 2.78 L
Patients N = 9						
Controls N = 8						
Tuppurainen et al. 2003 [¹²³ I]epidepride	-	-	0.76*	0.78*	-	-
Patients N = 7						
Controls N = 7						
Glenthøj et al 2006	0.55	0.54	1.13	1.10	2.35	2.57
Patients N = 25						
Controls N = 20						

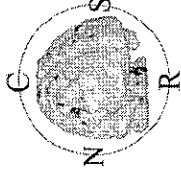
^aAnterior cingulated:
Patients < Controls





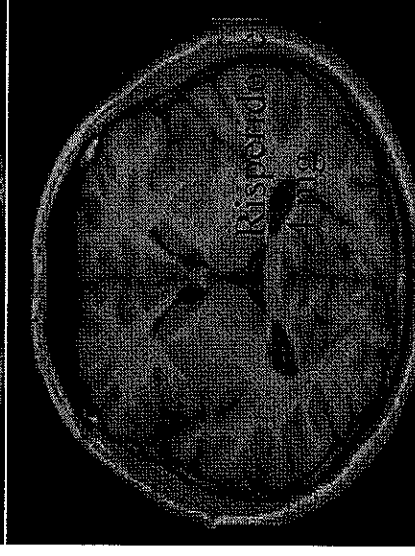
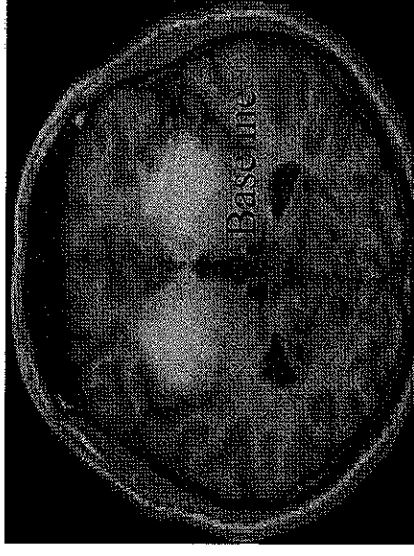
Psychiatri Study design: neuroleptic-naive first-episode schizophrenic patients and matched controls



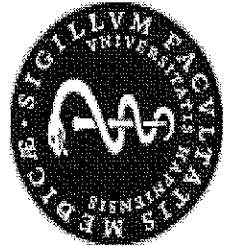
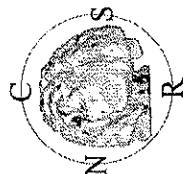
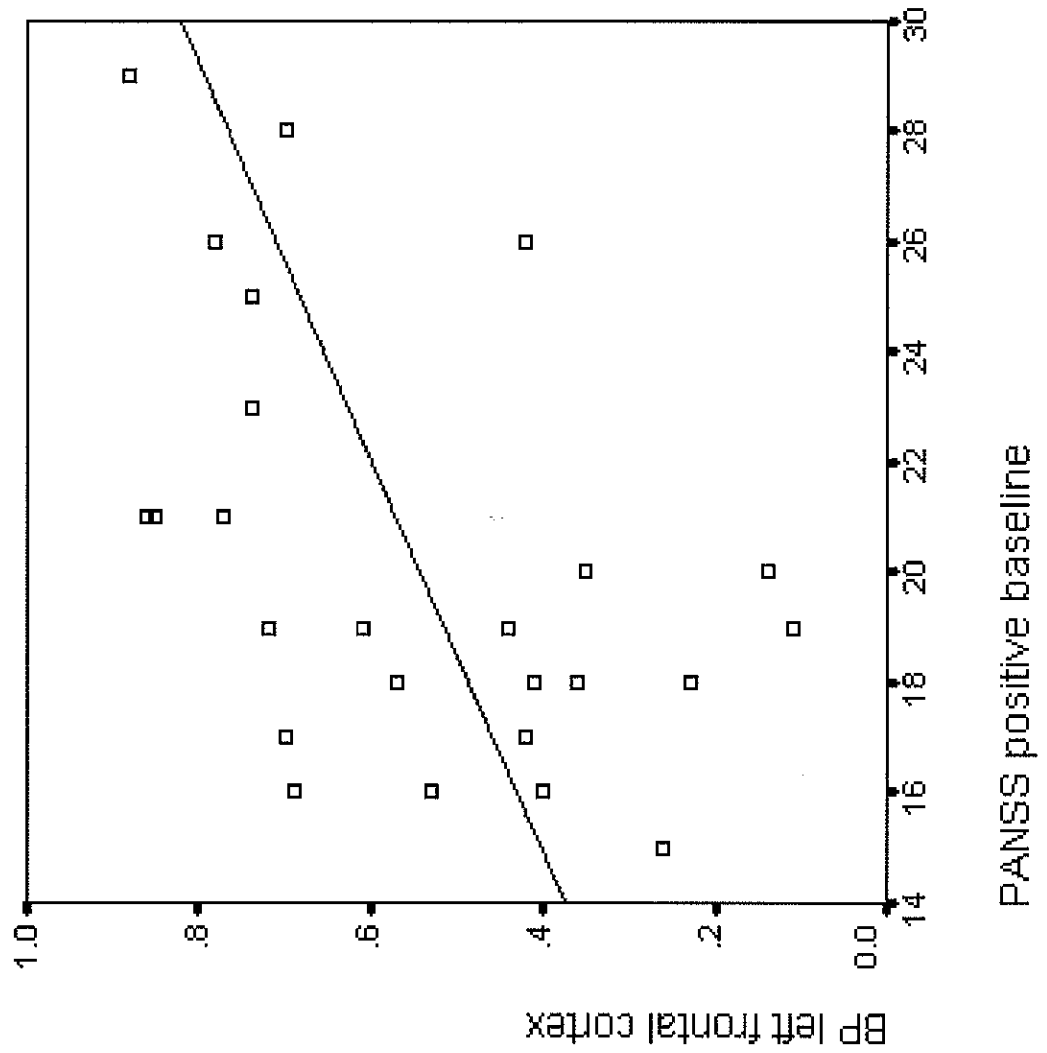


Methods: SPECT

- Subjects were examined a Tomomatic 232 scanner and the $D_{2/3}$ -receptor ligand [123 I]-epidepride
- Steady-state was achieved in extraatrial areas with an initial bolus and subsequent venous infusion for 7 h
- Co-registration with MRI
- *Bindings potentials (BP)* reflect receptor density before treatment on the assumption of equal K_d



Correlation between dopamine D2 BP and positive psychotic symptoms as assessed with PANSS in the left frontal cortex in 25 drug-naïve schizophrenic patients using Spearman rank-correlation coefficient ($r=0.54$, $p=0.006$)

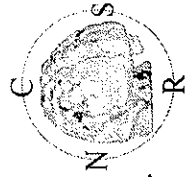


Psykiatri

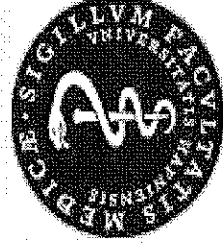
REGION

Follow-up

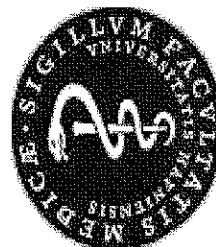
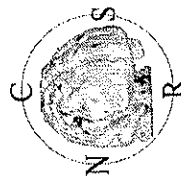
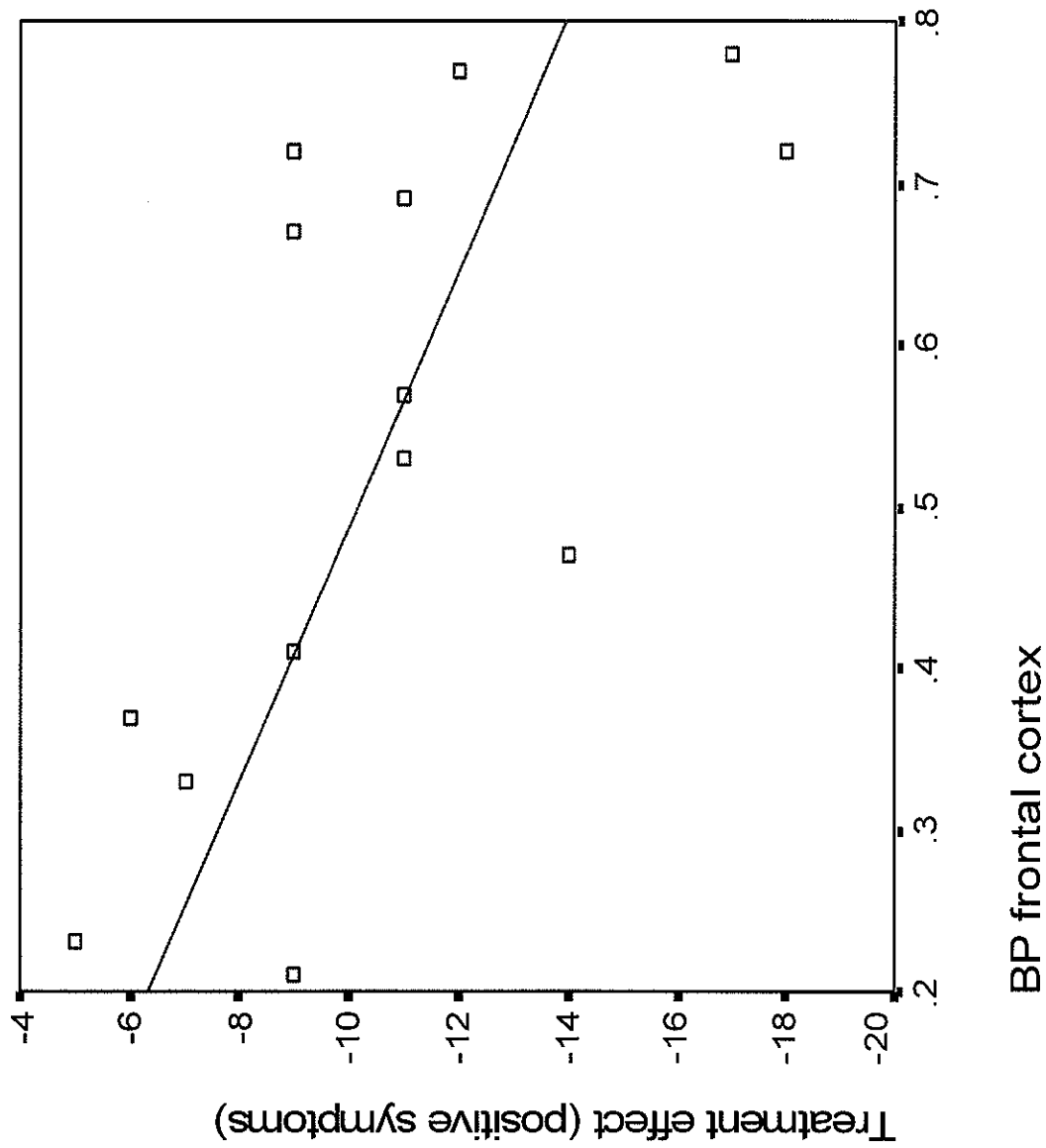
- *Efter 3 måneders behandling*



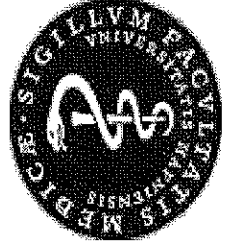
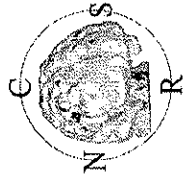
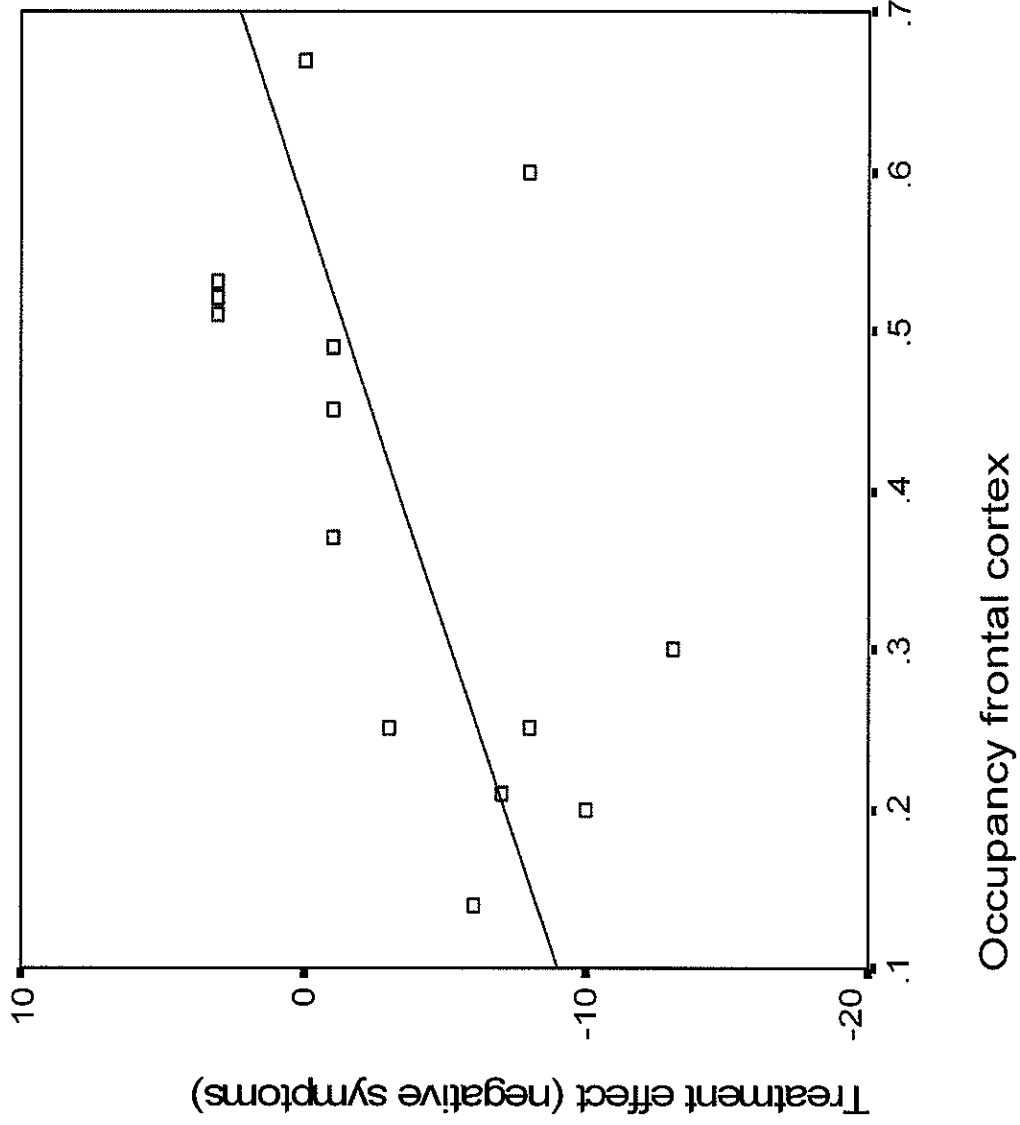
(Sidehoved/fod)

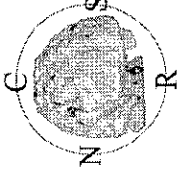


Positive correlation between frontal D₂ BP values in neuroleptic-naïve schizophrenic patients and treatment outcome (reduction in PANSS-positive scores): $p < 0.01$



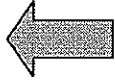
Negative correlation between frontal D₂ occupancy at follow-up and treatment-outcome (reduction in PANSS-negative scores after 3 months of treatment):
 $p < 0.05$



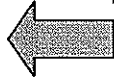


Skumpning af hjernen i forløbet af skizofrenierne

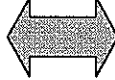
Psykotiske symptomer



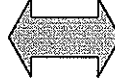
Medfødt disposition til skizofreni



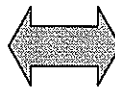
Informationsbearbejdning



Aktivitet / fysiologi



Signalstofsyste^mer



Anatomi / struktur

Årsager:
Gener
> 80 %

Antipsykotika

Årsager:
Miljø
< 20 %

