

DE GEVOLGEN VAN EARLY-LIFE STRESS



INTRODUCTIE

– BIOCOHERENCE & SAMENHANG –

- Concepten, diensten en producten
- Gericht op **samenhang** in begeleiding en behandeling
 - Firstbeat HRV Lifestyle analyse
 - HMA systeem analyse
 - Jodium 24uurs test
 - Spec. supplementen
 - Div. zaken in ontwikkeling



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EARLY LIFE STRESS ("ELS") REFERS TO AVERSIVE EXPERIENCES DURING CHILDHOOD AND ADOLESCENCE SUCH AS SEXUAL, PHYSICAL OR EMOTIONAL ABUSE, EMOTIONAL OR PHYSICAL NEGLECT AS WELL AS PARENTAL LOSS.

— *Institute of Medical Psychology, Charité University Medicine Berlin,
Berlin, Germany* —

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DR. ROEL VAN WIJK

IN 'TIJDSCHRIFT VOOR INTEGRALE GENEESKUNDE'

De mens is door zijn beschaving en industrialisatie niet alleen in een gigantisch complexe omgeving van onnatuurlijke bedreigingen beland, maar heeft ook een natuur ontwikkeld die het moeilijk maakt de fysische, chemische, biologische en psychologische gevolgen van deze bedreigingen op zijn lichaam goed in te schatten. De bedreigingen werken bijna geruisloos door, tot deze zich als psychosomatische aandoeningen, chronische ziekten en kanker manifesteren.

BELANGRIJKE TOEVOEGING!

VERBREDING WETENSCHAPPELIJKE DEFINITIE

- Biochemische stress in de kwetsbare fase van zwangerschap, geboorte en eerste levensfase moet zeker tot "ELS" gerekend worden, evenals stress bij de moeder:
 - Toxische stoffen (environmental toxins)
 - Farmaceutische interventies gedurende die periode (moeder of na de geboorte; de baby).
 - Geboorte trauma's
 - "Onveilige start" voor een baby
 - Emotionele stress moeder tijdens de zwangerschap
 - Toxische belasting moeder





EXPERIENCES DURING EARLY LIFE PROGRAM THE CENTRAL NERVOUS- AND ENDOCRINE-SYSTEMS WITH CONSEQUENCES FOR SUSCEPTIBILITY TO PHYSICAL AND MENTAL DISORDERS. THESE PROGRAMMING EFFECTS DEPEND ON GENETIC AND EPIGENETIC FACTORS, AND THEIR OUTCOME LEADS TO AN ADAPTIVE OR MALADAPTIVE PHENOTYPE TO A GIVEN LATER ENVIRONMENTAL CONTEXT.

Nikolaos P. Daskalakis, Icahn School of Medicine at Mount Sinai, USA

Rachel Yehuda, Icahn School of Medicine at Mount Sinai, USA



ENKELE VOORBEELDEN VAN RELEVANTE WETENSCHAPPELIJKE STUDIES



- Early maternal influences on stress circuitry: implications for resilience and susceptibility to physical and mental disorders. - Nikolaos P. Daskalakis^{1,2,3*} and Rachel Yehuda^{1,2,4}
- Gene–environment interactions and intermediate phenotypes: early trauma and depression. - Orla P. Hornung† and Christine M. Heim*†
- Early-life stress, HPA axis adaptation, and mechanisms contributing to later health outcomes. - Jayanthi Maniam, Christopher Antoniadis and Margaret J. Morris*
- Neurocircuitry underlying stress and emotional regulation in animals prenatally exposed to alcohol and subjected to chronic mild stress in adulthood. - Charlis Raineki¹, Kim G. C. Hellemans^{1,2}, Tamara Bodnar¹, Katie M. Lavigne^{3,4}, Linda Ellis¹, Todd S. Woodward^{3,4} and Joanne Weinberg^{1*}
- Glucocorticoid programing of the mesopontine cholinergic system. - Sónia Borges^{1,2}, Bárbara Coimbra^{1,2}, Carina Soares-Cunha^{1,2}, Ana P. Ventura-Silva^{1,2}, Luisa Pinto^{1,2}, Miguel M. Carvalho^{1,2}, José-Miguel Pêgo^{1,2}, Ana João Rodrigues^{1,2*} and Nuno Sousa^{1,2*}

- Age- and sex-dependent effects of early life stress on hippocampal neurogenesis. - Manila Loi^{1*}, Sylwia Koricka¹, Paul J. Lucassen² and Marian Joëls¹
- Social isolation disrupts hippocampal neurogenesis in young non-human primates. - Simone M. Cinini^{1†}, Gabriela F. Barnabe^{1†}, Nicole Galvão-Coelho², Magda A. de Medeiros³, Patrícia Perez-Mendes¹, Maria B. C. Sousa², Luciene Covolan¹ and Luiz E. Mello^{1*}
- Mother–pup interactions: rodents and humans. - Aldo B. Lucion^{1*} and Maria Cátira Bortolini²
- Early life trauma and attachment: immediate and enduring effects on neurobehavioral and stress axis development. - Millie Rincón-Cortés^{1,2,3*} and Regina M. Sullivan^{1,2,3}
- Effects of an early experience involving training in a T-maze under either denial or receipt of expected reward through maternal contact. - Antonios Stamatakis, Anastasia Diamantopoulou, Theofanis Panagiotaropoulos, Androniki Raftogianni and Fotini Stylianopoulou*

RELEVANTE ZOEKTERMEN

PUBMED

- Early Life Stress - 1117 publ.
- Faulty Hormonal Imprinting (G. Csaba - 6 publ.)
- Receptor modulation - 1254 publ.
- Perinatal Imprinting - 12 publ.
- Transgenerational Epigenetical Programming - 8 publ.
- Developmental Programming - 875 publ.
- etc.



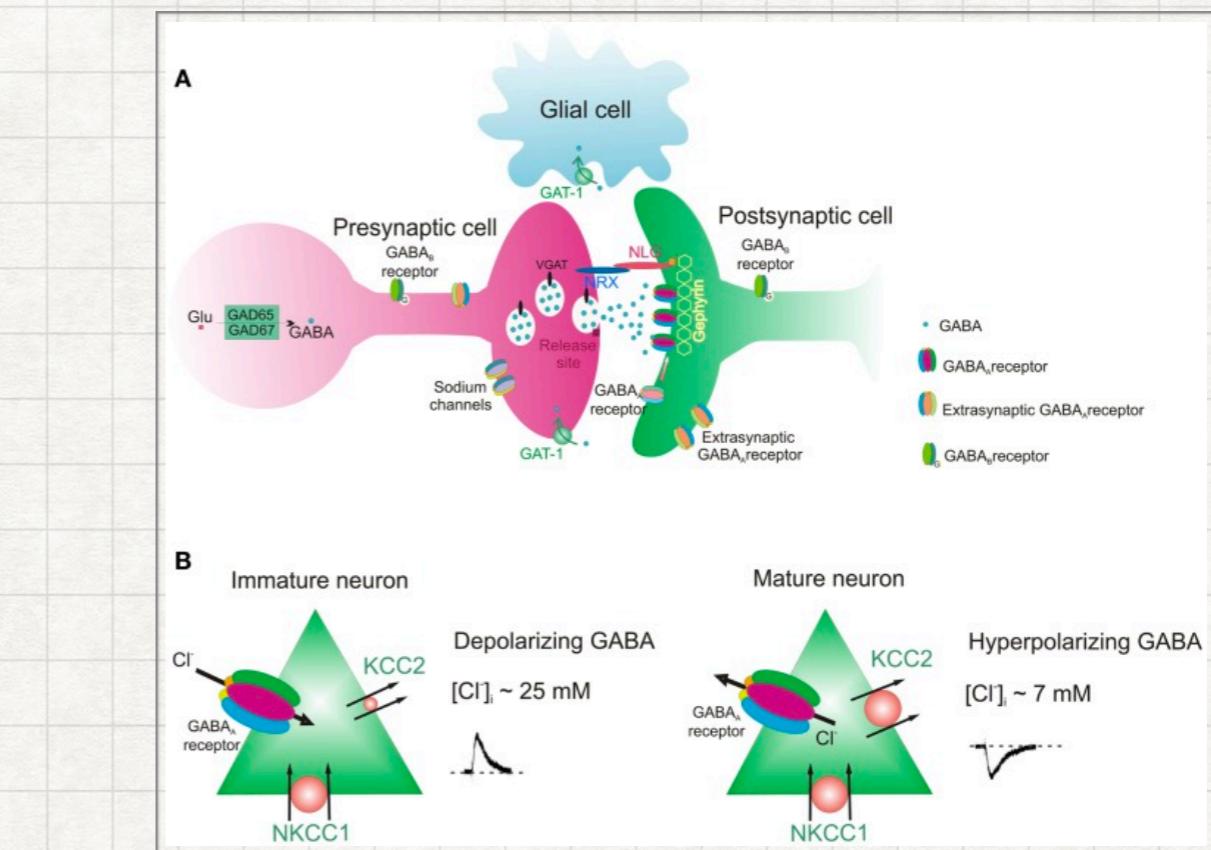
Prof. György Csaba

RESEARCH GROUP OF PROF. GYÖRGY CSABA

Over of its theoretical significance (evidence of epigenetic inheritance), hormonal imprinting is very important from practical aspects. Our environment and by this our organism is polluted by receptor-active chemical contaminants, steroids included (soy bean components in baby-food, contraceptives in mother milk and water, pesticides and herbicides). As a consequence, the effect of medicaments used later in life is altered, which have to be considered by the physicians. In addition the faulty-imprinted receptor and the altered reaction of the cell predispose to diseases or itself provokes diseases, as it was in the case of DES-**catastrophe** or it is in the case of metabolic syndrome.



catastrophe



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EXCESS OF THE TARGET HORMONES OR
PRESENCE OF FOREIGN MOLECULES WHICH
ARE ABLE TO BIND TO THE RECEPTORS,
PROVOKE FAULTY IMPRINTING IN THE CRITICAL
PERIODS WITH LIFE-LONG MORPHOLOGICAL,
BIOCHEMICAL, FUNCTIONAL OR BEHAVIOURAL
CONSEQUENCES.

— György Csaba —

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AS MANY RECEPTOR-BOUND FOREIGN MOLECULES ARE USED AS MEDICAL TREATMENTS AND MANY SUCH MOLECULES ARE PRESENT AROUND US AND INSIDE US AS ENVIRONMENTAL POLLUTANTS, THEY--CAUSING FAULTY IMPRINTING--ARE ABLE TO PREDISPOSE THE (HUMAN) ORGANISM TO CARDIOVASCULAR, ENDOCRINE, METABOLIC AND CANCEROUS DISEASES. IT SEEMS LIKELY THAT THIS EFFECT IS CONNECTED WITH DISTURBANCE OF DNA METHYLATION PROCESS IN THE CRITICAL PERIODS OF LIFE. THERE ARE SOME SIGNS OF THE TRANSGENERATIONAL EFFECT OF FAULTY IMPRINTING AND THIS COULD BE MANIFESTED IN THE EVOLUTION OF HUMANS BY AN EPIGENETIC ROUTE.

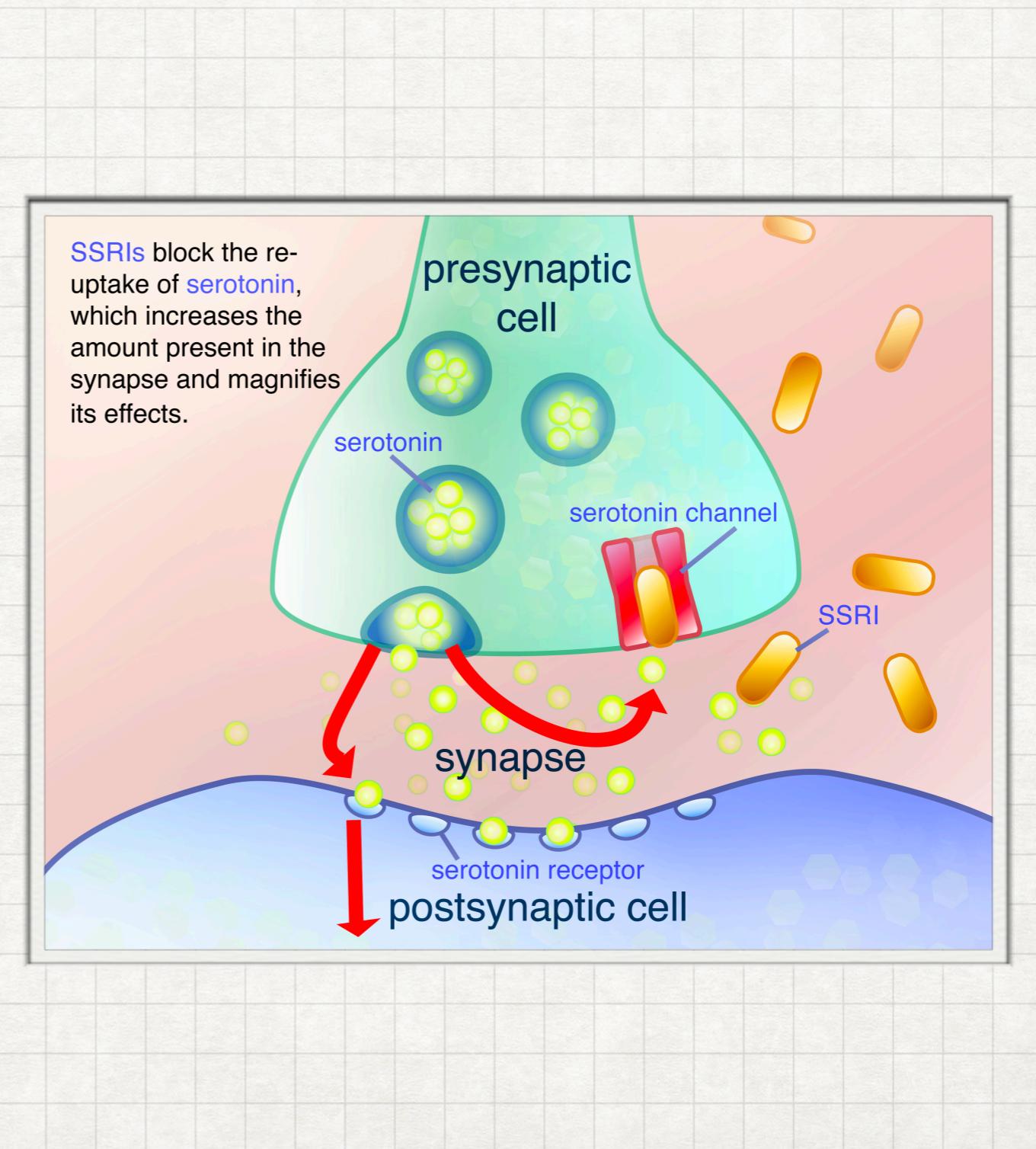
— György Csaba —

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RECEPTOR MODULATIE

DE GEVOLGEN VAN 'OVERPRIKKELING'

- Receptoren verliezen een deel van hun gevoeligheid en volgens Csaba e.a. is dat blijvend.
- Dit leidt tot resistentie voor tal van signaalstoffen in het lichaam (hormonen, neurotransmitters).
- Psychische stress heeft ook altijd een fysiologische kant.



ENKELE VOORBEELDEN

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DATA PRESENTED SHOW THAT NEONATAL IMPRINTING BOTH BY NC AND NS HAVE LONG-LASTING AND BRAIN AREA SPECIFIC EFFECTS. IN EARLIER EXPERIMENTS ENDORPHIN IMPRINTING ALSO INFLUENCED THE SEROTONERGIC SYSTEM SUGGESTING THAT DURING LABOUR RELEASE OF PAIN-RELATED SUBSTANCES MAY DURABLY AFFECT THE SEROTONERGIC (DOPAMINERGIC, ADRENERGIC) SYSTEM WHICH CAN IMPRESS THE ANIMALS' LATER BEHAVIOR.

— Kornélia Tekes, Melinda Gyenge, Péter Sótónyi, György Csaba —

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NC=Nociceptin
NS=Nocistatin

THE RESULTS SHOW THAT DOPAMINE AND SEROTONIN METABOLISM OF HYPOTHALAMUS AND STRIATUM ARE DEEPLY AND LIFELONG INFLUENCED BY A SINGLE NEONATAL OXYTOCIN TREATMENT OXYTOCIN IMPRINTING RESULTED IN DECREASED DOPAMINE TURNOVER IN THE HYPOTHALAMUS AND DECREASED SEROTONIN TURNOVER IN THE HYPOTHALAMUS, MEDULLA OBLONGATA, AND STRIATUM OF FEMALES. AS THE DISTURBANCE OF BRAIN DOPAMINE AND SEROTONIN SYSTEM HAS AN IMPORTANT ROLE IN THE DEVELOPMENT OF PERVASIVE DEVELOPMENTAL DISEASES (EG, AUTISM) AND NEUROPSYCHIATRIC DISORDERS (EG, SCHIZOPHRENIA), THE GROWING NUMBER OF OXYTOCIN-INDUCED LABOR AS A CAUSAL FACTOR, CANNOT BE OMITTED.

— G. Csaba e.a. —

EARLY-LIFE EXPOSURE TO ENDOCRINE DISRUPTING CHEMICALS (EDC) AND LATER-LIFE HEALTH OUTCOMES: AN EPIGENETIC BRIDGE?

ENKELE VOORBEELDEN

- Bisphenol-A (BPA)]
- Diethylstilbestrol (DES) - Importantly, such programming effects of DES have been shown to be able to be epigenetically transmitted to next generations.
“Transgenerational Imprinting”.
- Methoxychlor - insecticide (alternatief voor DDT)
- Permethrin - insecticide
- Vinclozolin - anti-androgene pesticide
- Dioxine - toxisch bij-product van pesticide productie
- Zware metalen: Recent animal studies have reported that early-life exposure to heavy metals can lead to marked changes in epigenetic regulation of gene expression.



EARLY LIFE STRESS & BRAIN CANNABINOIDS SYSTEM



LOPEND ONDERZOEK RADBOUD UNIV.

DR. P. ATSAK (PIRAY)

Stress in early life alters our emotional and cognitive abilities. These alterations can create life-long vulnerability to stress-related psychiatric disorders. I investigate the mechanisms underlying these changes at emotional and cognitive systems that contribute to the vulnerability. My focus is particularly on the recently discovered 'cannabinoid system' or so called brain cannabis. Emerging evidence from my and others research highlights this system as a keystone in stress response, (mal) adaptation and regulation.



I previously discovered that the endocannabinoid system, an emerging stress responsive system, is a primary route mediating the effects of major stress hormones on memory and neural processes. Recent evidence has underscored endocannabinoid dysregulations in anxiety disorders; nevertheless, the endocannabinoid system has received very little attention in the ELS context. Based on preliminary data, I hypothesize that alterations in endocannabinoid signalling are responsible for the long-lasting effects of ELS on emotional regulation and the underlying brain network changes.

ENKELE FUNCTIES VAN HET ENDOCANNABINOÏD SYSTEEM

Exogenous and Endogenous Cannabinoids and Their Role in Endocrine Regulation

- 1. A. Cannabinoids and the hypothalamic-pituitary-adrenal axis**
- 2. B. The role of cannabinoids in GH secretion**
- 3. C. Cannabinoids and the hypothalamic-pituitary-thyroid axis**
- 4. D. The role of cannabinoids in prolactin secretion**
- 5. E. The role of cannabinoids in the modulation of the hypothalamic-pituitary-gonadal axis and fertility**

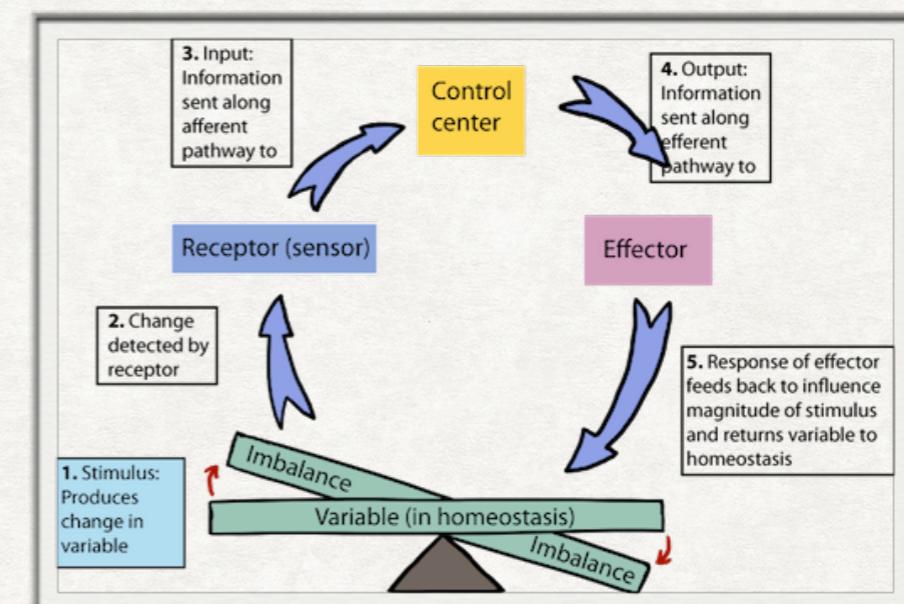
Endocannabinoid System in the Modulation of Energy Balance

- 1. A. Animal studies before the discovery of endocannabinoids**
- 2. B. Studies in humans with exogenous cannabinoids before the discovery of endocannabinoids**
- 3. C. Endocannabinoid functions at mesolimbic level to regulate rewarding properties of food**
- 4. D. The endocannabinoid system as a new hypothalamic player in the regulation of food intake**
- 5. E. The peripheral effect of the endocannabinoid system in the modulation of metabolic functions**
- 6. F. Oleoylethanolamide: a new anorectic fatty acid amide**

Cannabinoid Receptor Antagonists as New Pharmacological Tools to Tackle Obesity and Obesity-Related Diseases

1. A. Emerging issues in the treatment of obesity and related diseases by cannabinoid antagonists
2. B. Clinical trial studies with rimonabant, the first CB1 receptor antagonist in clinical use to tackle obesity and obesity-related diseases

HET ENDOCANNABINOÏD SYSTEEM
WERKT OVERAL WAAR CANNABINOÏD
RECEPTOREN ZIJN: HOMEOSTASE
BEVORDEREND.



ENDOCANNABINOÏD - OXYTOCINE INTERACTIE

WE PRESENT EVIDENCE THAT AN OXYTOCIN-DEPENDENT ENDOCANNABINOID SIGNAL CONTRIBUTES TO THE REGULATION OF SOCIAL REWARD. THE RESULTS PROVIDE INSIGHTS INTO THE FUNCTIONS OF OXYTOCIN, A NEUROPEPTIDE CRUCIAL FOR SOCIAL BEHAVIOR, AND ITS INTERACTIONS WITH OTHER MODULATORY SYSTEMS THAT REGULATE THE REWARDING PROPERTIES OF SOCIAL BEHAVIOR. THEY FURTHER SUGGEST THAT OXYTOCIN-DRIVEN ANANDAMIDE SIGNALING MAY BE DEFECTIVE IN AUTISM SPECTRUM DISORDERS, AND THAT CORRECTING SUCH DEFICITS MIGHT OFFER A STRATEGY TO TREAT THESE CONDITIONS.

— *Proc Natl Acad Sci U S A. 2015 Nov 10; 112(45): 14084–14089. Published online 2015 Oct 26. doi: [10.1073/pnas.1509795112](https://doi.org/10.1073/pnas.1509795112) PMCID: PMC4653148 Neuroscience* —

PRAKTIJK OBSERVATIES

RELATIE OXYTOCINE & ENDOCANNABOÏD SYSTEEM

- In meerdere gevallen heb ik het volgende gezien:
 - Sterke indicaties voor verminderde oxytocine gevoeligheid
 - Geen of nauwelijks reactie op Oxytocine-kuur
 - Wel reactie op Oxytocine kuur i.c.m. CBD druppels



DOPAMINE AND OXYTOCIN INTERACTIONS UNDERLYING BEHAVIORS: POTENTIAL CONTRIBUTIONS TO BEHAVIORAL DISORDERS

— CNS Neuroscience and Therapeutics:
Tracey A. Baskerville, Alison J. Douglas —

BELANGRIJK VOOR DE PRAKTIJK

IMPORTANT

WANNEER DENKEN AAN "ELS"

INDICATOREN IN DE PRAKTIJK



BEHANDEL BLOKKADE?

DENK AAN "ELS"

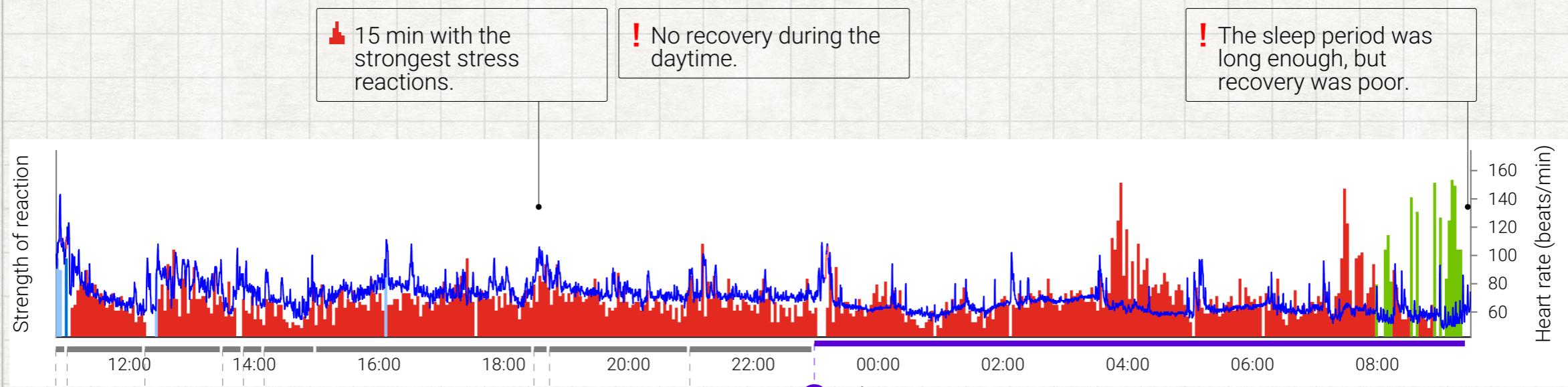


FIRSTBEAT 72UURS HRV METING

SLECHT HERSTEL GÉÉN RELATIE MET LIFESTYLE

'GOED' GESLAPEN, 10:30 UUR: WAARVAN 37,8 MIN. HERSTEL!

⚠ Stress reactions ⚡ Recovery ⚡ Physical activity ⚡ Light physical activity — Heart rate — Missing heart rate 0%



Shower/bath 10min TV 50min
ontbijt, koffie m... 1h 15min
werken met paarde... 1h 15min
Eating 20min
Computer 20min

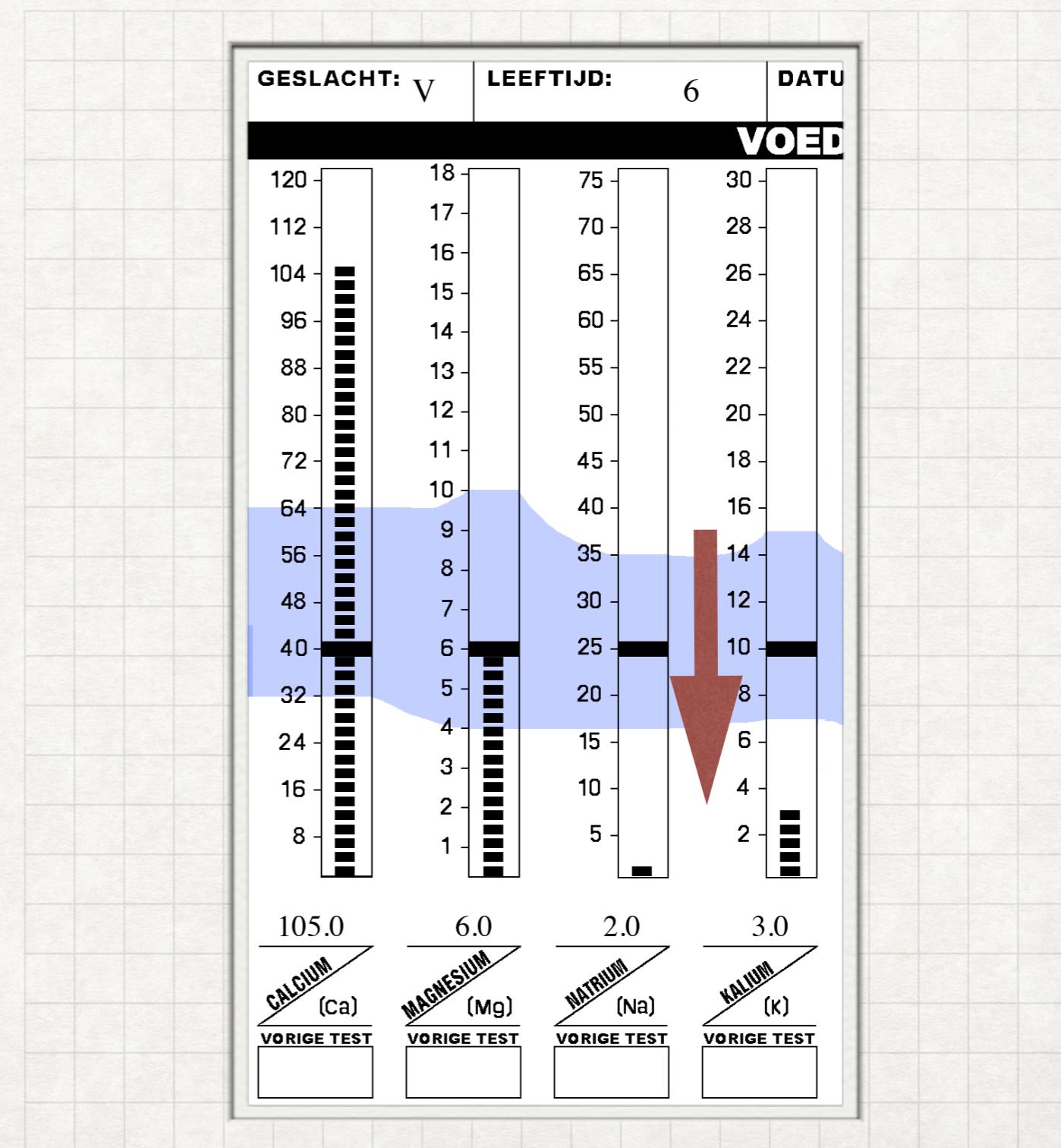
eten 15min TV 2h 0min
bezoek ontvangen 2h 15min

3% HERSTEL OVER HET HELE ETMAAL
EN SLECHTS 6% IN DE SLAAP PERIODE

“UITPUTTINGSFASE” IN HMA

BIJ JONGE KINDEREN

- Meisje van 6 jaar met een “inverse Na/K ratio” in HMA (Haarmineralen Analyse).
- Dit staat voor de “Uitputtingsfase” van de stress-respons.
- Betekent dat er nog steeds een adequate stress-respons mogelijk is maar dat de prijs die het organisme er voor ‘betaalt’ te hoog is, m.a.g. disfunctioneren en ziekte.



ANAMNESE

TIJDLIJN-DENKEN - "SINDS WANNEER"?

- Klachten die zijn terug te voren op de vroege jeugd of eerder.
- Wanneer iets al "sinds de geboorte" bestaat. Denk aan verstorende factoren in zwangerschap of rond geboorte.
- Familiaire niet-erfelijke patronen.
- Denk ook aan omgeving.



DETOX

EFFECTIEF ONTGIFTEN IS GEEN LUXE

- Tegen de achtergrond van het voorgaande is effectief ontgiftten, ook al op jonge leeftijd, geen luxe maar helaas bittere noodzaak.
- Wil ontgiftten ook epigenetische invloed hebben dan moet het ín de lichaamscellen werken.
- Zie webinar over Fulvinezuur (Biocoherence).



NEONICETEÏNEN

CONCENTRATIES OPPERVLAKTEWATER NL

Table 2.

Imidacloprid contamination of Dutch surface water

Location	Date of sampling	Imidacloprid concentration in water sample in ng/L	Factor above maximum acceptable limit (67 ng/L)	Geographical Coordinate (x, y)
Emmererfscheidevene	05-04-2007	4,200	63	(263060, 536500)
Schagerbrug	10-09-2007	1,100	16	(110162, 534722)
Amsterdam	04-08-2004	6,000	90	(122624, 484495)
Noordwijkerhout	19-12-2005	320,000	4,776	(94800, 475440)
De Kwakel	12-05-2004	4,700	70	(110726, 470153)
Oude Wetering	19-03-2007	8,600	128	(103444, 470006)
Rijnsburg	09-08-2005	120,000	1,791	(90986, 469385)
Roelofarendsveen	16-04-2007	2,500	37	(102574, 467108)
Boskoop	23-06-2005	12,000	185	(108312, 456412)
Waddinxveen	15-03-2007	54,000	806	(101281, 450151)
Bleiswijk	27-09-2006	4,700	70	(95463, 449725)
Delft	05-11-2006	4,550	68	(85630, 449527)
Moerkapelle	14-06-2007	1,800	27	(98244, 449420)
Nieuwerkerk aan den IJssel	22-07-2004	35,000	522	(103222, 444796)
Bergschenhoek	26-04-2006	1,700	25	(94000, 444410)
Berkel en Rodenrijs	04-06-2006	2,190	33	(89257, 443578)
Zevenhuizen	26-04-2006	2,100	31	(97735, 443556)
Moordrecht	27-09-2006	3,500	52	(104451, 443547)
Midden-Delfland	13-08-2007	1,300	19	(82081, 440801)
Puttershoek	18-07-2007	3,500	52	(96466, 425574)
Nieuw-Beijerland	18-07-2007	3,700	55	(83816, 423786)
Mijnsheerenland	10-05-2007	3,700	55	(92655, 423433)
Goudswaard	18-07-2007	3,000	45	(79205, 420178)
Zuid-Beijerland	18-07-2007	2,000	30	(84983, 416989)
Numansdorp	15-05-2006	5,460	81	(90319, 416574)
Middelharnis	17-07-2007	1,500	22	(68183, 421759)

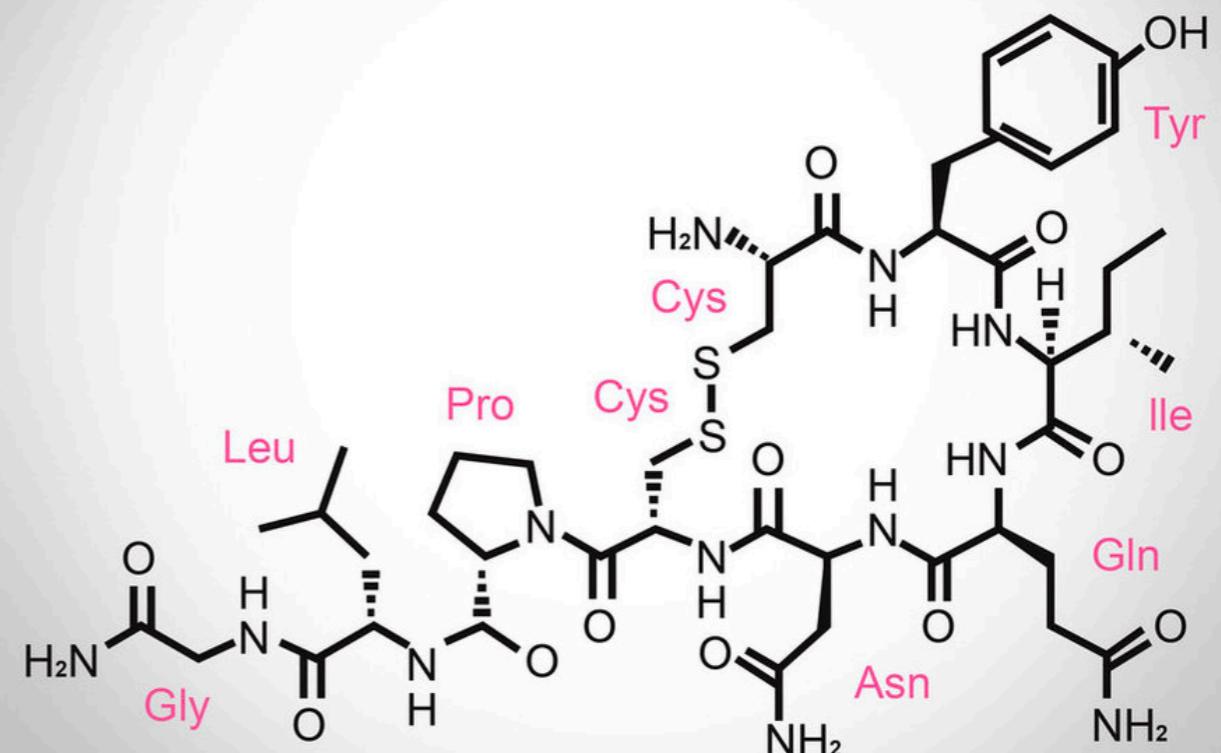
Bron: "The systemic insecticides - a disaster in the making", door Dr. Henk Tennekes

SYNTETISCH OXYTOCINE

WEEËNOPWEKKER EN STIMULANS LACTATIE

- Csaba: gebruik van synth. oxytocine voor opwekken van de bevalling geeft levenslange oxytocine resistentie bij de baby.
- Gevolg: onveilige hechting, moeite met sociaal gedrag, moeit met agressie-beheersing, angst- en paniekstoornissen, maar ook darmklachten, slaapproblemen, moeite met ontspannen, etc. etc.

this is love.



ROKEN TIJDENS DE ZWANGERSCHAP

-EEN CASUS-



- Jonge vrouw wiens moeder rookte tijdens de zwangerschap
- Klacht: Enuresis nocturna
- Behandeling: Tabacum reeks
- Reden: Nicotine geeft resistentie van Acetylcholine-nicotine receptoren



THERAPEUTISCHE TIPS

DEZE ADVIEZEN HEBBEN NIET DE INTENTIE VOLLEDIG TE ZIJN



THERAPEUTISCHE TIPS

IN RELATIE TOT EARLY LIFE STRESS

- Aanwijsbare toxische stoffen (farmaceutische middelen, pesticiden, etc.) - De veroorzakende stof wordt gebruikt (zie verder) -
- Onveilige start - Oxytocine (al of niet i.c.m. CBD)
- Wanneer oorzaak niet is terug te voeren op een substantie maar op een situatie of wanneer die onbekend is (transgenerational bijv.) dan focus je op de verstoerde functie. Kennis Neurofysiologie voorwaarde: signaalstof/receptor specifieke behandeling.
- Verstoring Endocannabinoïd systeem: therapeutisch CBD

RECEPTOR MODULATIE

HERSTEL VAN NORMALE RECEPTOR GEVOELIGHEID

- Homeopatisch bereidde reeks (30-200-M-10M) van de signaalstof c.q. verstorende substantie (*protocol op aanvraag verkrijgbaar*):
 - Bij gebruik weeën opwekkers: Oxytocine reeks
 - Bij verdenking Imidacloprid (Pestanal) schade: Imidacloprid reeks
 - Bij verstoring Serotonine functie: Serotonine reeks (+5-HTP)
 - Bij verstoring Dopamine functie: Dopamine reeks (+DLPA)
 - Bij verstoring Acetylcholine functie: Acetylcholine reeks (+)

DANKSCHEEN
GRACIAS SPASSHO
ARIGATO SHUKURIA
SHUKRİA
JUSPAXAR
GOZAIMASHITA
EFCHARISTO
KOMAPSUMHIDA
MAAKKE
GRAZIE MEHRBANI
MEHRBANİ
PÄLDIES
YAQHANYELAY
TASHAKKUR ATU
SUKSAMA EKHMET
TINGKI BİYAN
SHUKRIA
THANK YOU BOLZİN MERCI