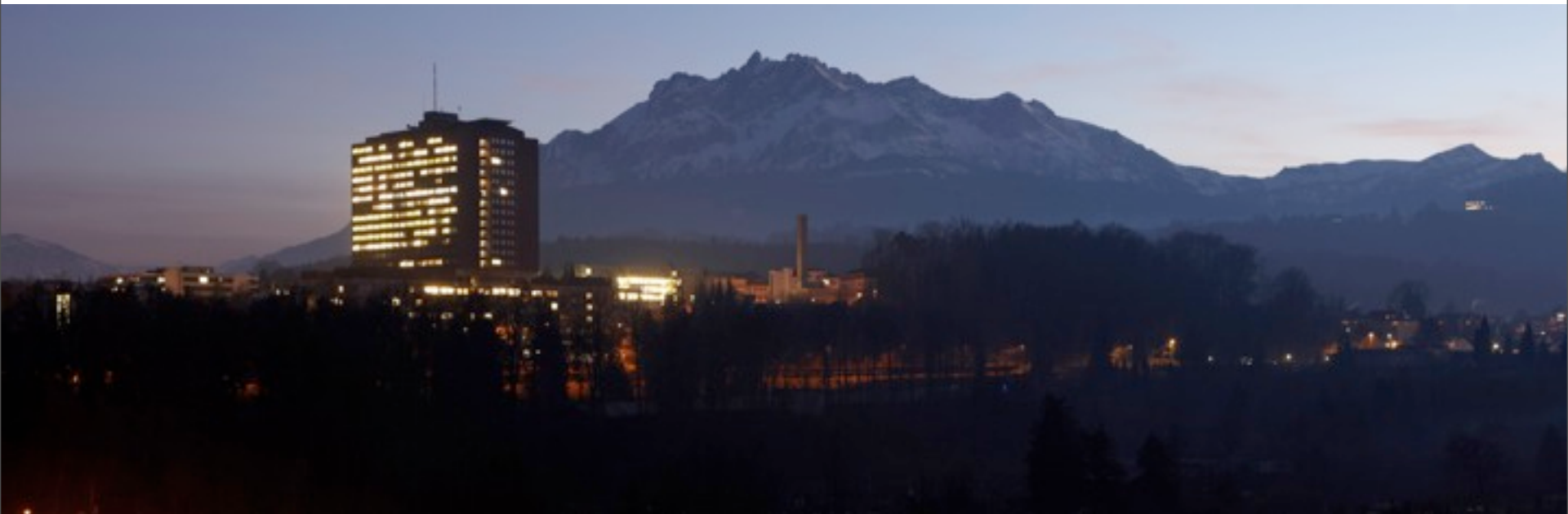


Evidenzbasiertes, perioperatives Analgesie- Konzept in der Fast Track Chirurgie



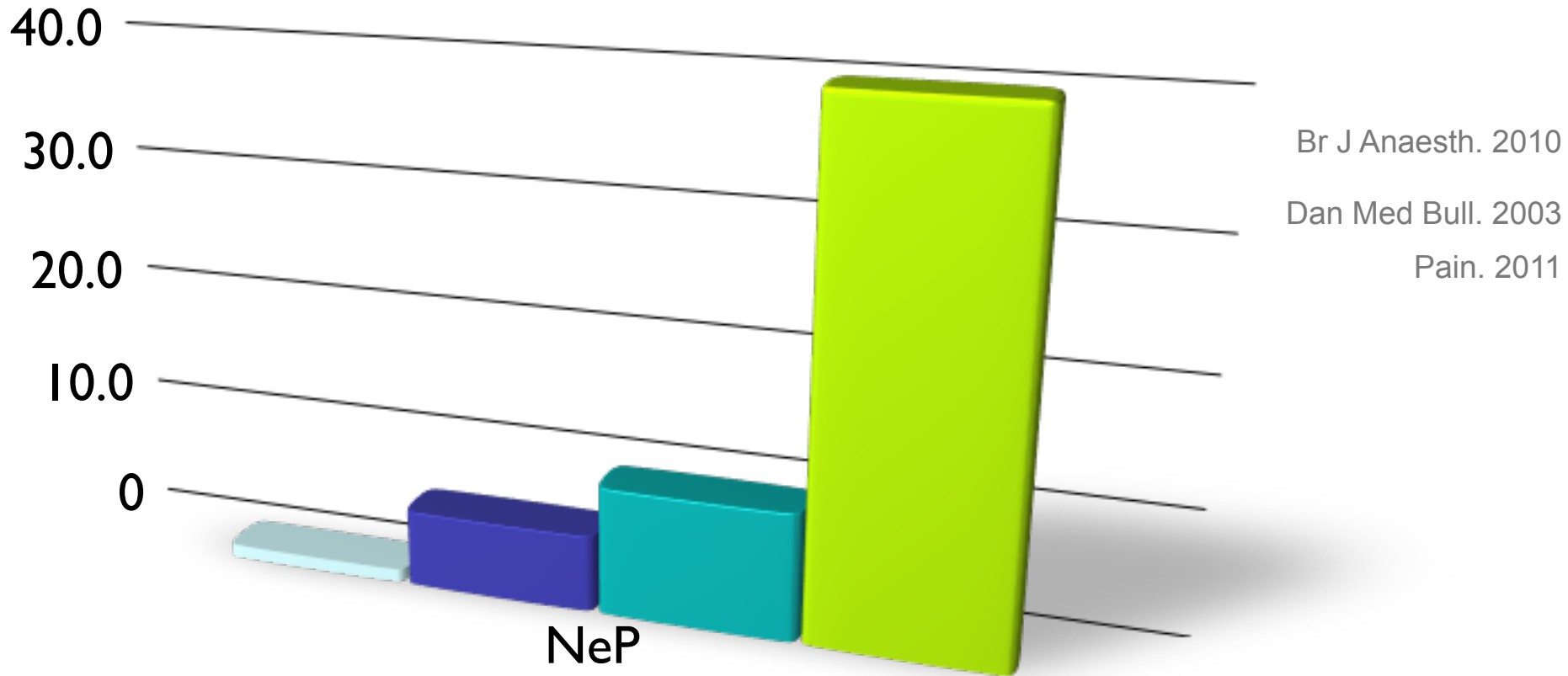
Christoph Konrad
Luzern



Samstag, 30. April 2011

Prävalenz

Prävalenz



NeP

The background of the slide features a panoramic view of a city at night, with lights from buildings and streets visible. In the distance, a range of mountains is silhouetted against a light sky. The text is overlaid on this image.

Pathophysiologie

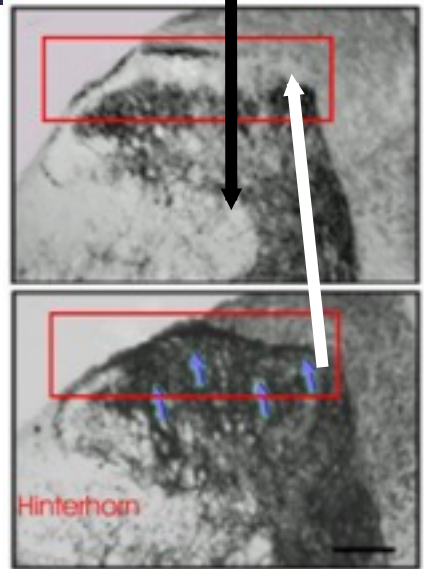
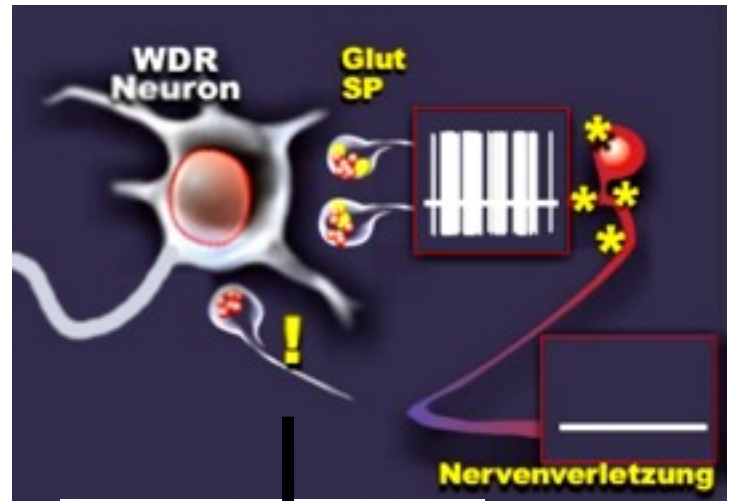
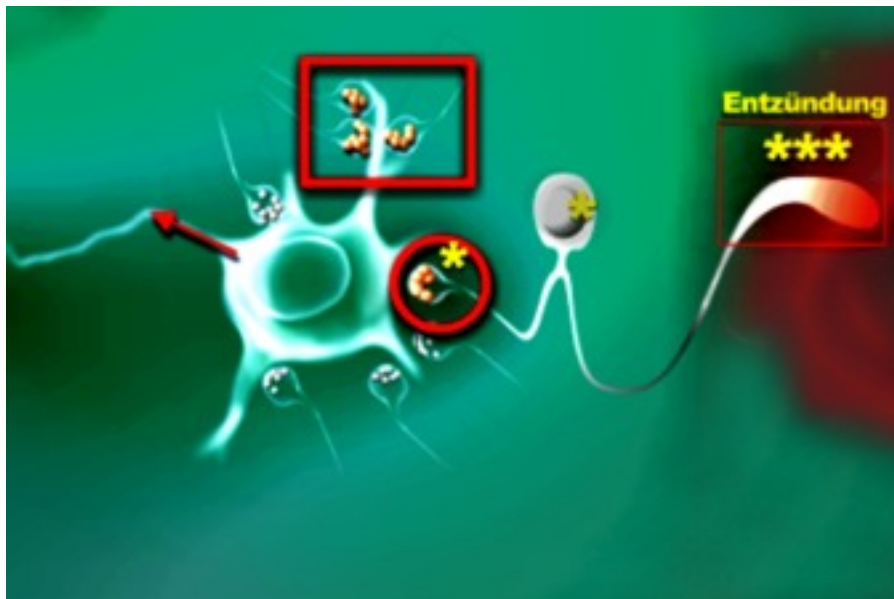
Therapieansätze

Konzept und

Vision

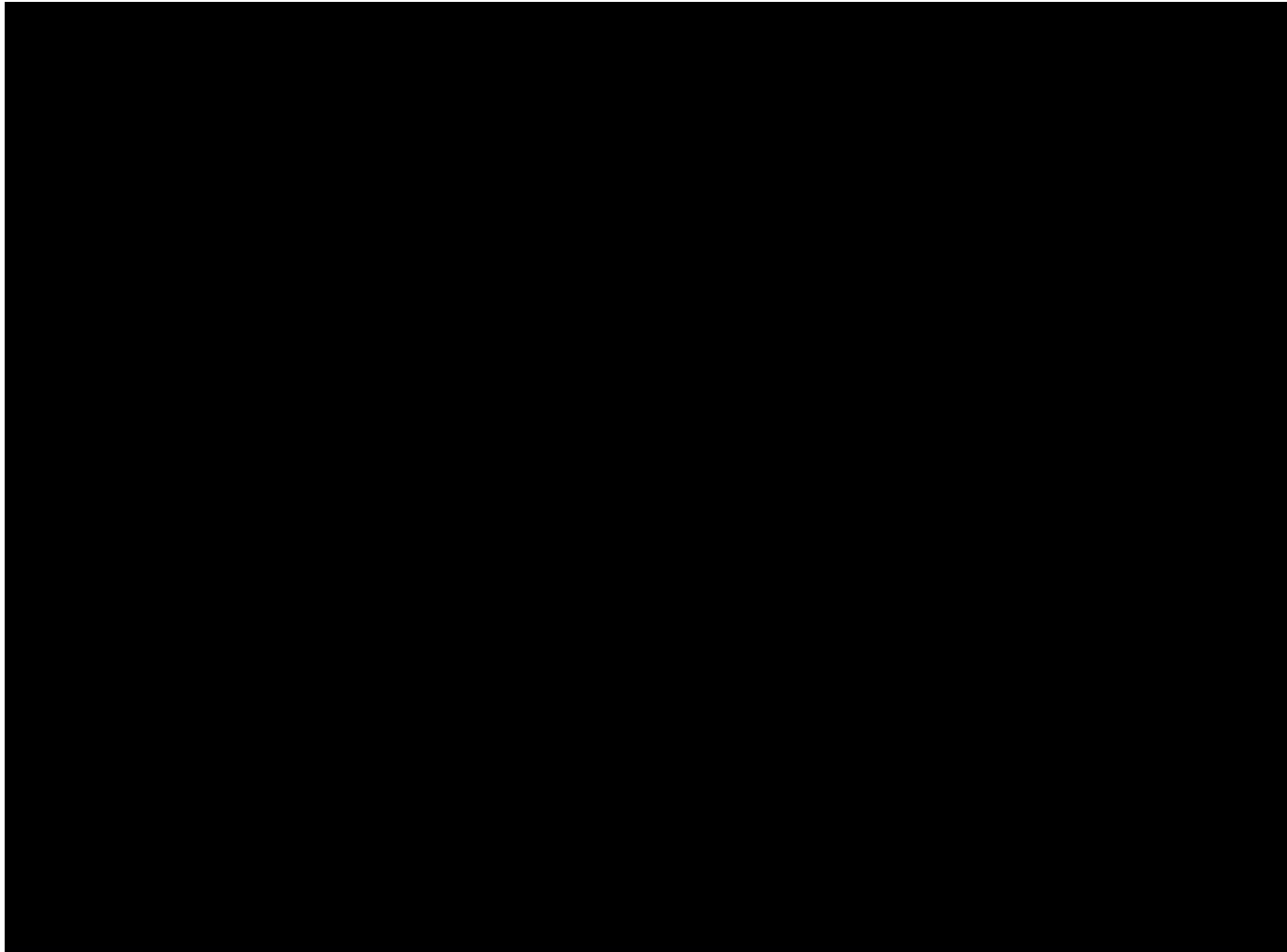
Pathophysiologie

Nozizeptorschmerz / Neuropathie



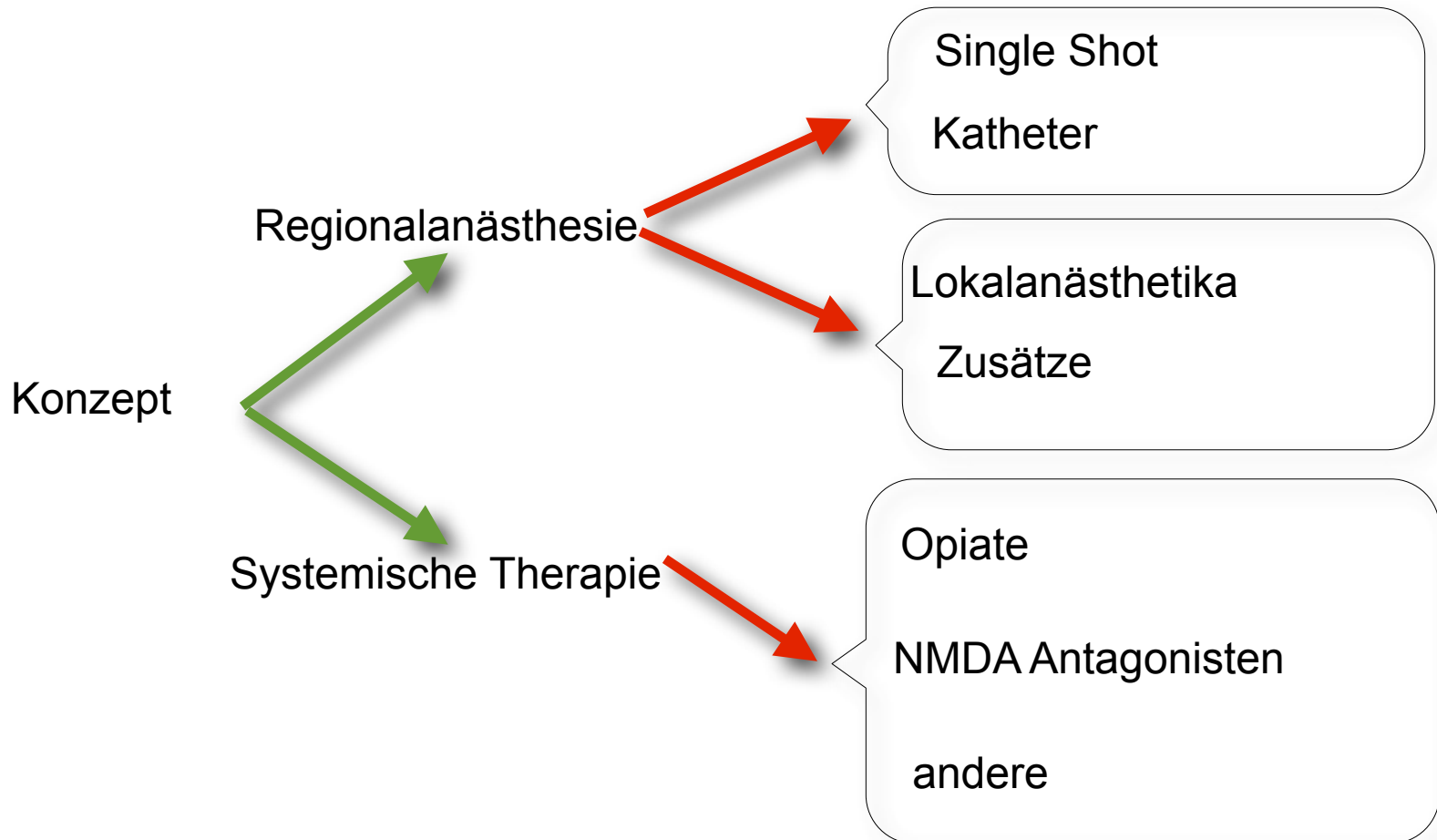
Sprouting

Chronifizierung



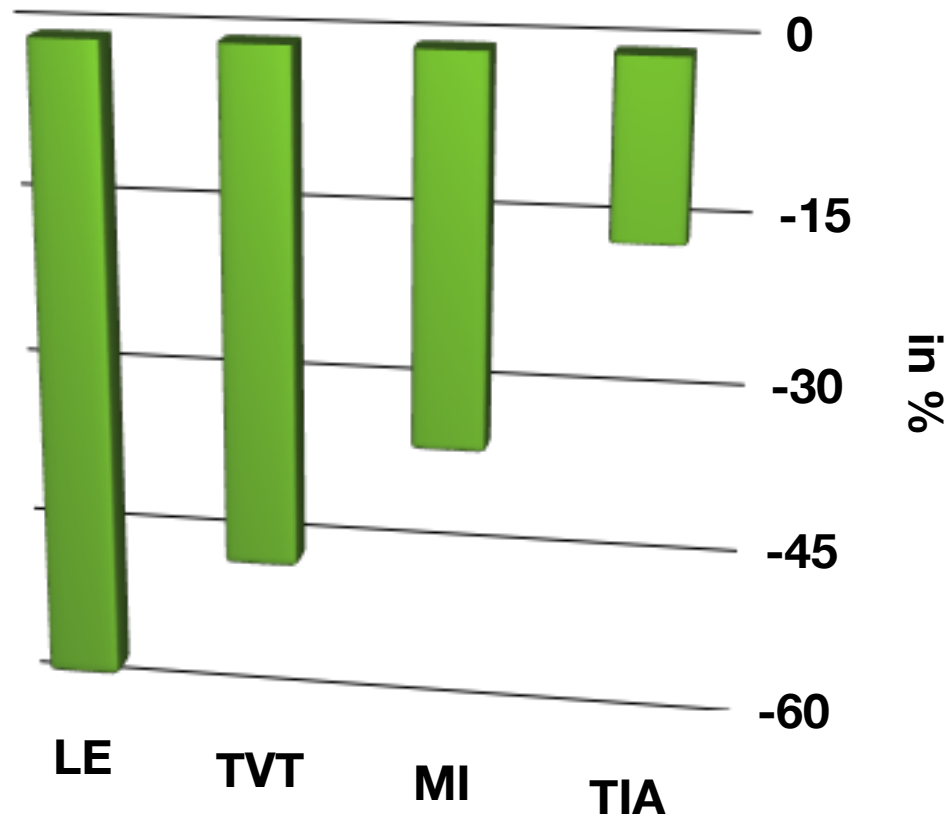
Therapieansätze

Mögliches Konzept



Lokoregionale Anästhesie

Epidural Analgesia and Perioperative Morbidity



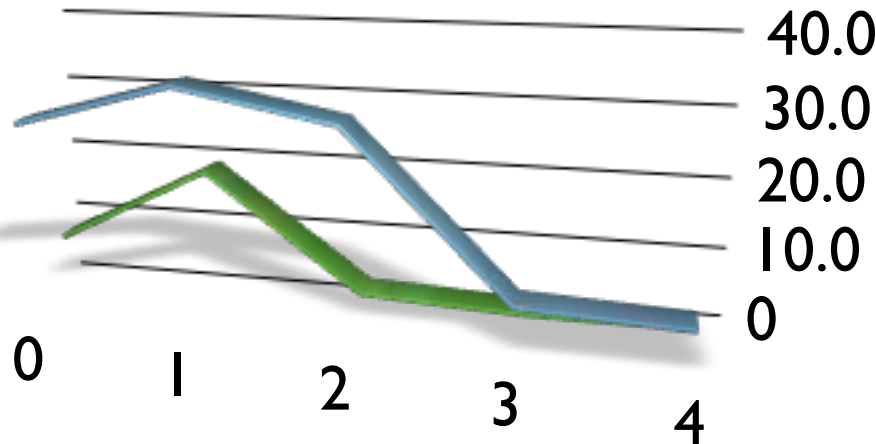
Rodgers et al, 2000, BMJ

Epidural Analgesia (EDA): Safety and Efficacy

VAS

Effective pain relief improved
gastrointestinal function

Continuous balanced low-dose
epidural analgesia recommended for
pain treatment in major surgery and is
a prerequisite for **enhanced recovery**



— Parent opioids

— EDA

JAMA, Nov 2003

Continuous Preperitoneal Infusion of Ropivacaine Provides Effective Analgesia and Accelerates Recovery after Colorectal Surgery

A Randomized, Double-blind, Placebo-controlled Study

Marc Beaussier, M.D., Ph.D.,* Hanna El'Ayoubi, M.D.,† Eduardo Schiffer, M.D.,‡ Maxime F. Yann Parc, M.D., Ph.D.,§ Jean-Xavier Mazoit, M.D., Ph.D.,|| Louisa Azizi, M.D.,# Pascal Ger Serge Rohr, M.D., Ph.D.,†† Celine Biermann, M.D.,‡‡ André Lienhart, M.D., Ph.D.,§§ Jean

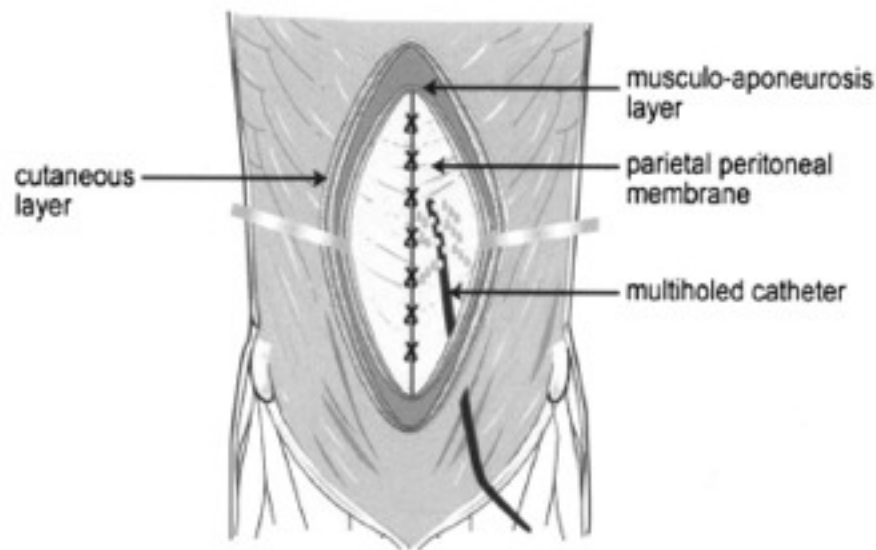


Fig. 1. Schematic representation of the multiholed catheter placed in preperitoneal position.

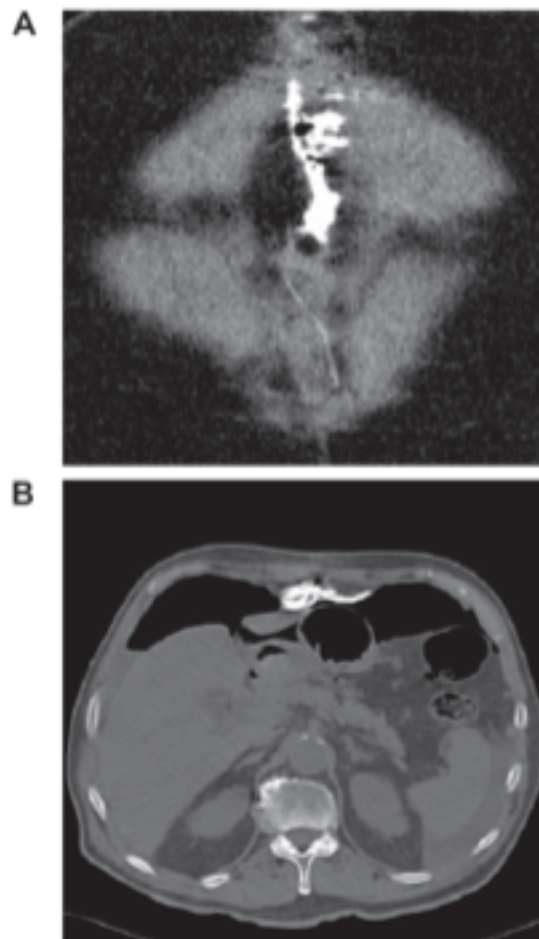
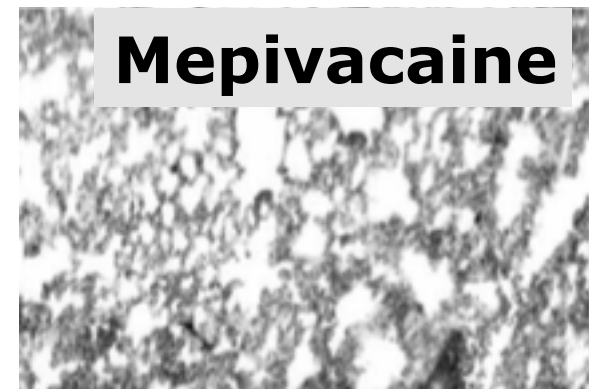
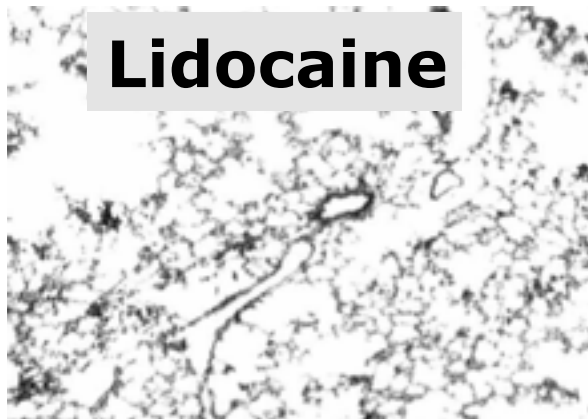
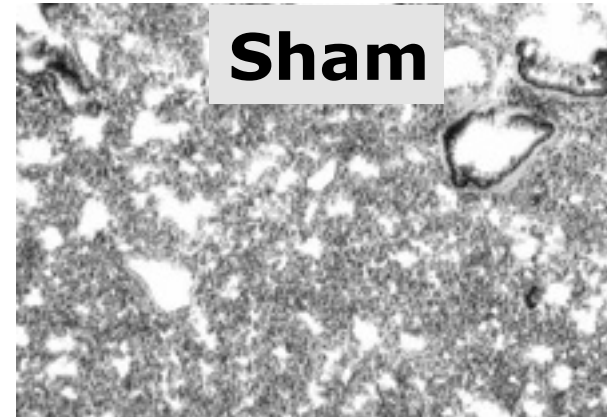
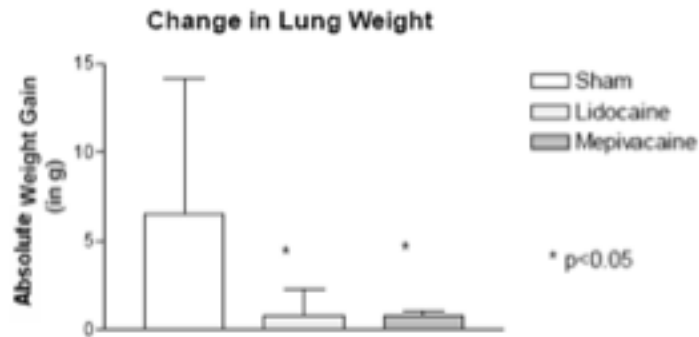


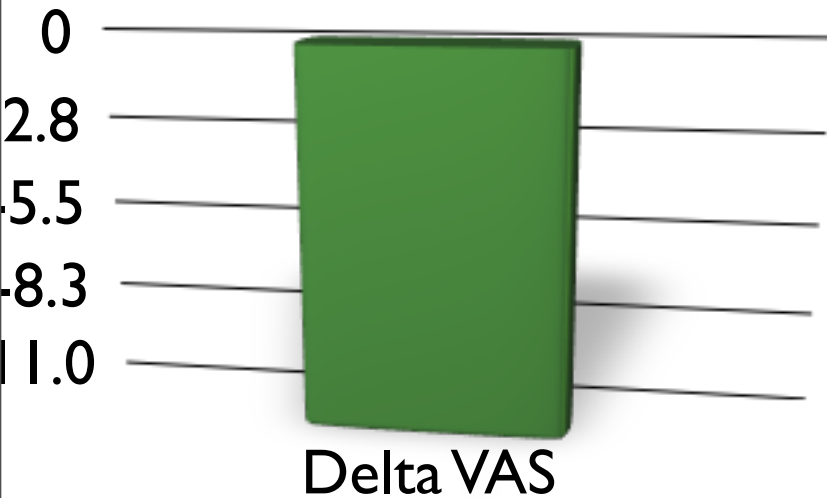
Fig. 2. Contrast-enhanced computer tomography scan obtained by injection of a 10-ml mixture of nonionic contrast material and saline solution (1:1) 24 h after surgery into the preperitoneal wound catheter. (A) Coronal section, (B) sagittal section.

Pulmonale Protektion durch LA



Reg Anesth Pain Med 2006, Anesth Analg. 2009

Local Anesthetics



Systemic administration of local anesthetic agents to relieve neuropathic pain

Lidocaine and oral analogs were **safe** drugs in controlled clinical trials for neuropathic pain, were better than placebo, and were as **effective** as other analgesics.

No difference in efficacy (WMD = -0.6; 95% CI: -7 to 6), or adverse effects versus carbamazepine, amantadine, gabapentin or morphine.

Cochrane 2009

Perioperative Intravenous Lidocaine Has Preventive Effects on Postoperative Pain and Morphine Consumption After Major Abdominal Surgery

Wolfgang Koppert, MD*, Marc Weigand, MD*, Frank Neumann, MD*, Reinhard Sittl, MD*, Jürgen Schuettler, MD*, Martin Schmelz, MD†, and Werner Hering, MD‡

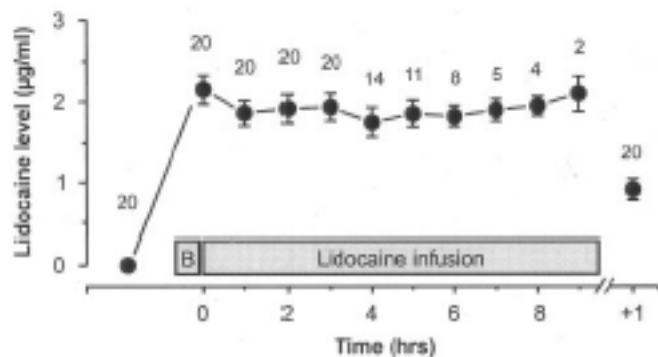


Figure 1. Lidocaine plasma levels before and immediately after bolus infusion of 1.5 mg/kg (B) and during and 1 h after continuous infusion of 1.5 mg · kg⁻¹ · h⁻¹. Figures indicate the number of patients receiving the infusion; values are mean ± SEM.

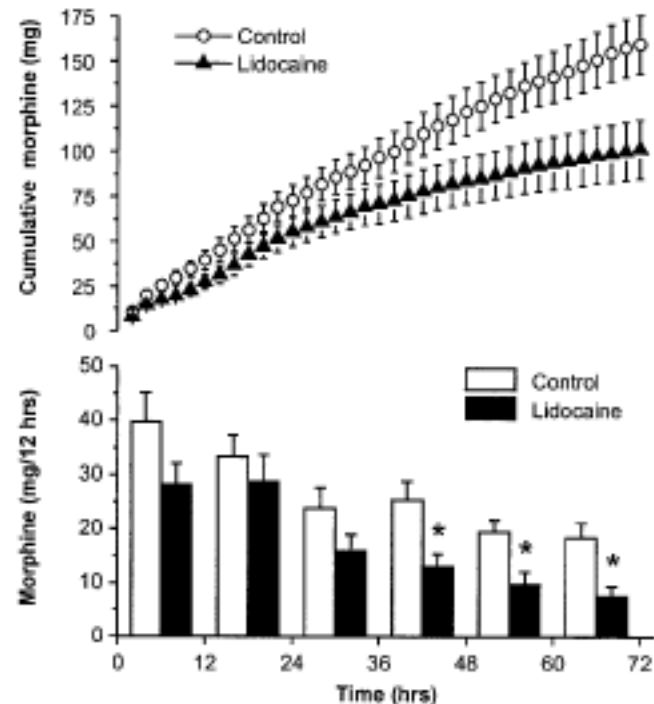
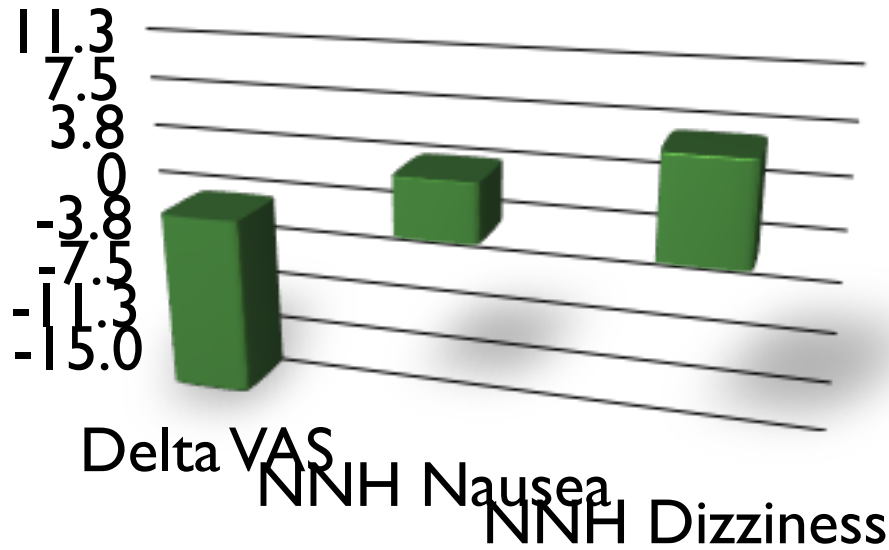


Figure 2. Upper panel: cumulative postoperative morphine consumption in the two groups during 72 h after connection of the patient-controlled analgesia pump. Lower panel: morphine consumption in 12-h intervals in the two groups. Values are mean ± SEM. * *P* < 0.01; unpaired Student's *t*-test corrected with the Bonferroni procedure.

Weitere

Opioids

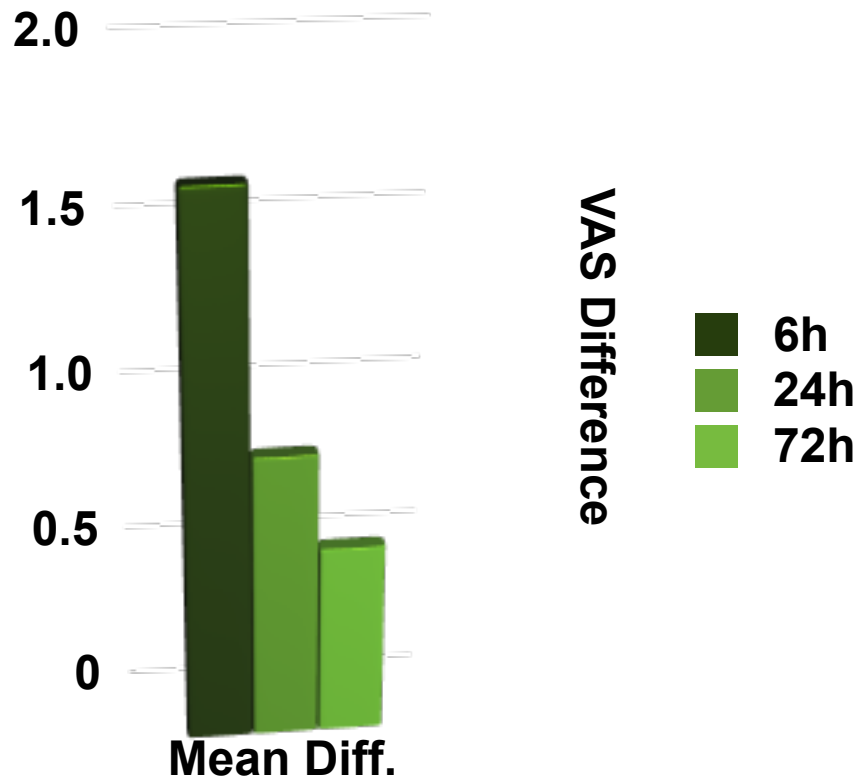
Opioids for neuropathic pain



Intermediate-term studies demonstrate significant **efficacy of opioids** over placebo

Cochrane 2009

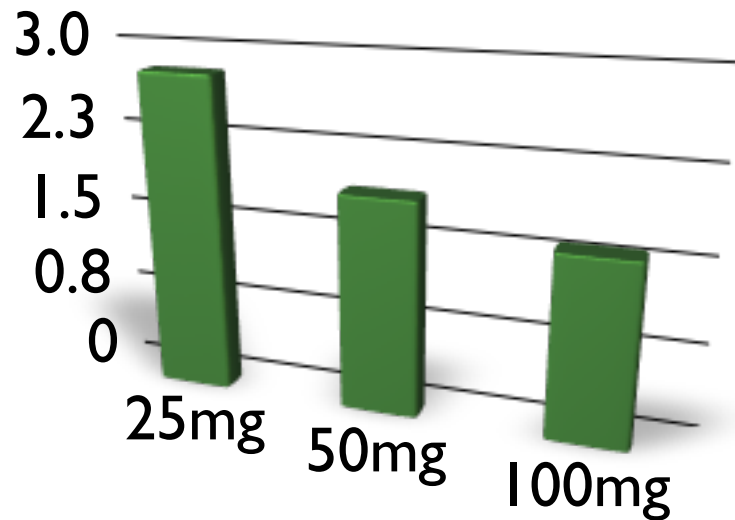
PCA versus PCEA in abdominal surgery



- 9 RCTs, n=711
- CEA preferable in intra-abdominal surgery
- Only pruritus elevated in CEA

Cochrane 2004

Oral Diclofenac for Postop Pain



NNT compared Placebo

7 RCTs, n=945

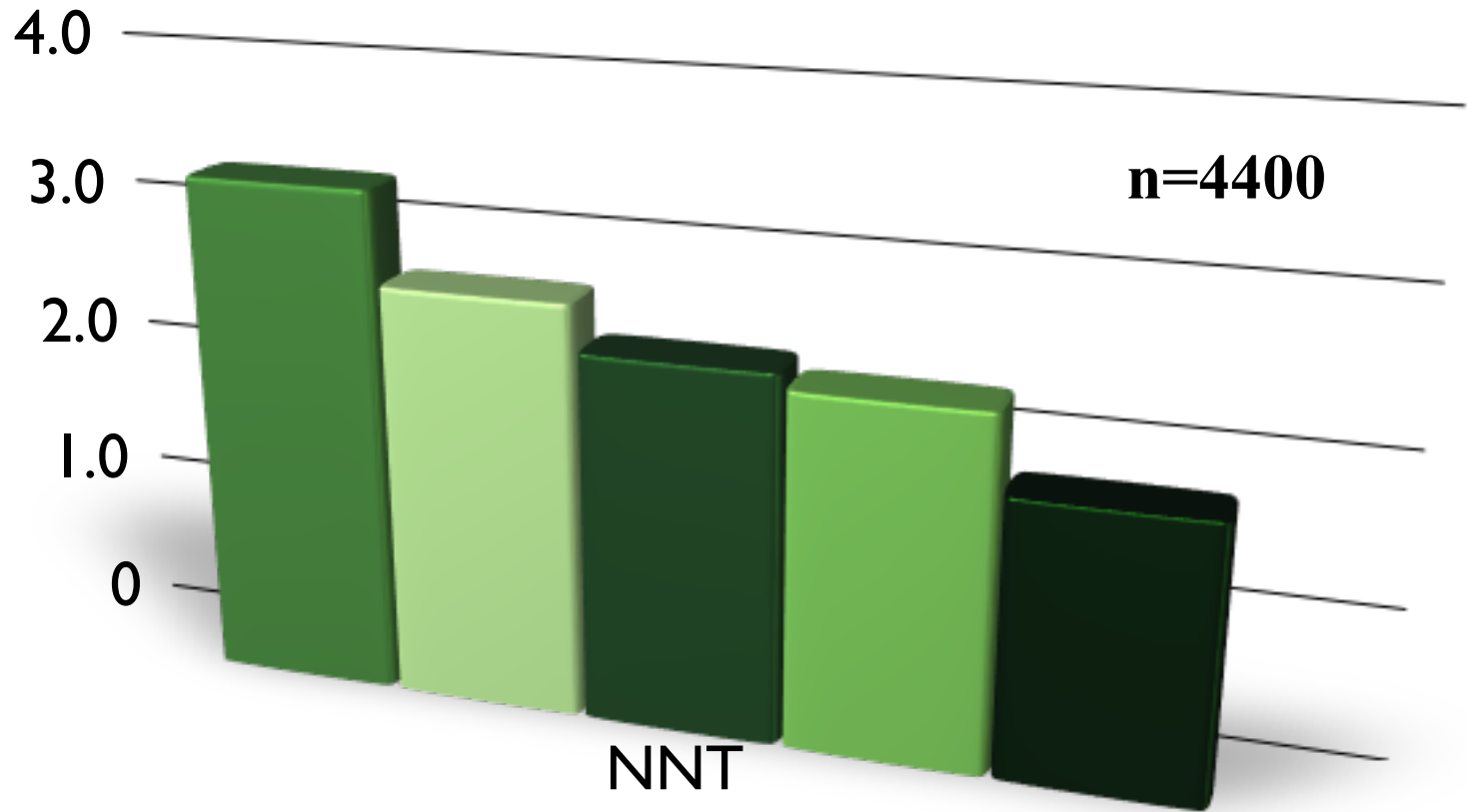
Diclo effective

Duration 2 h for placebo and 6h for 50mg Diclofenac

Same for Naproxen 400mg

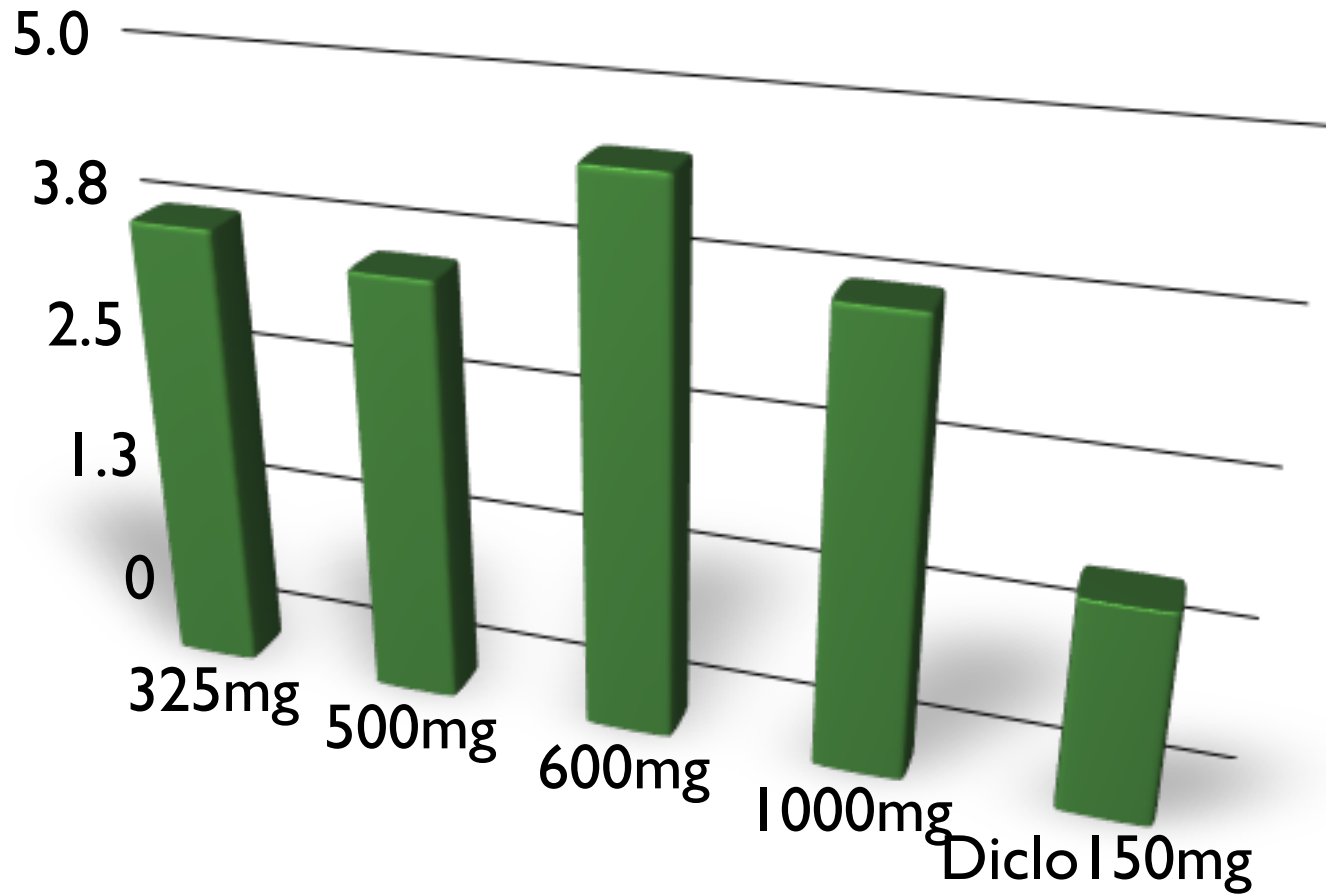
Cochrane 2004

Single Dose Ibuprofen versus Diclofenac



Cochrane 1999

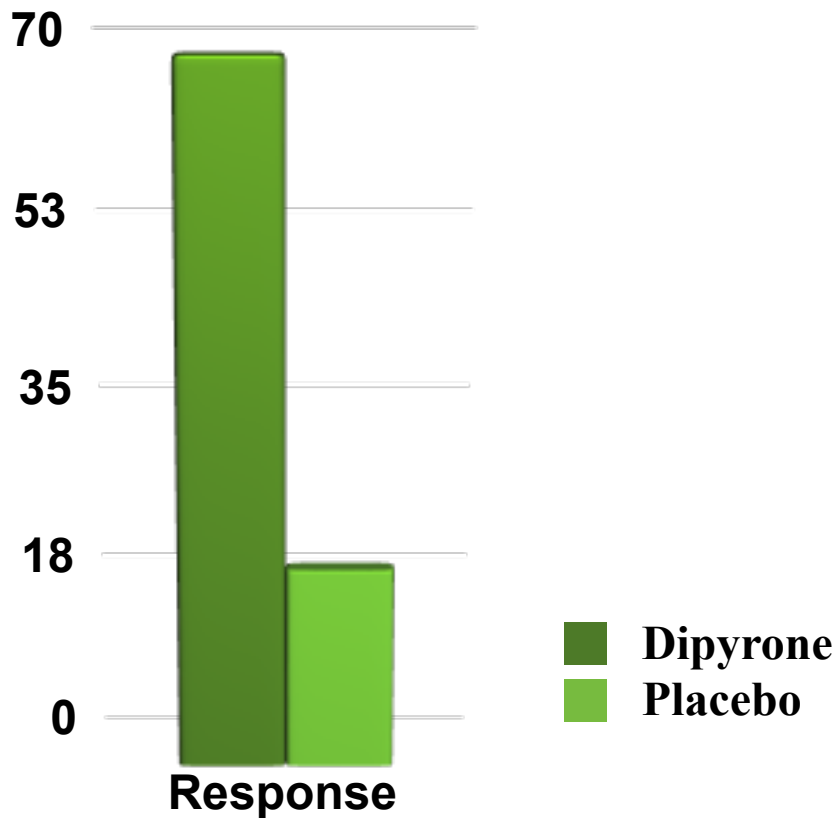
Single Dose oral Paracetamol for Postop Pain



N=4186

Cochrane 1999

Single dose Dipyrrone for Postop. Pain

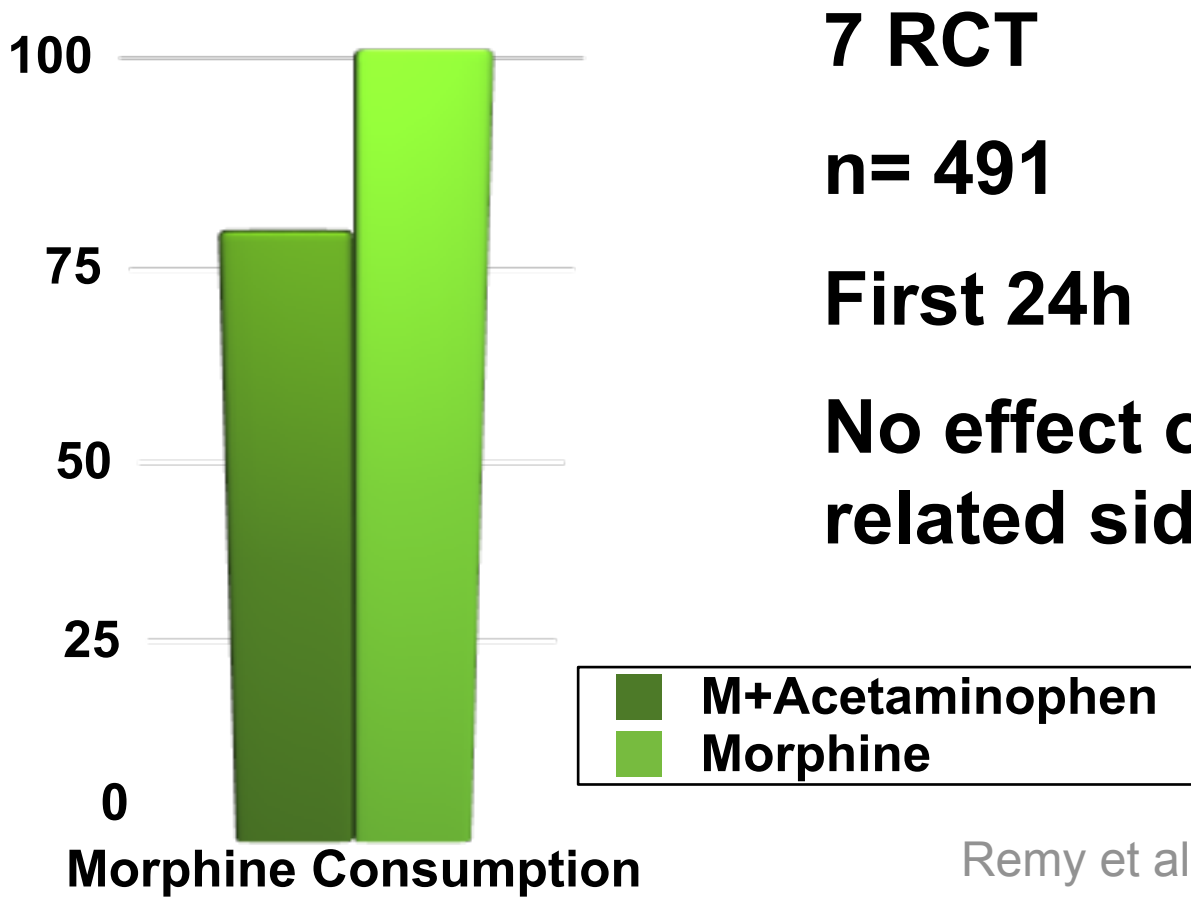


15 RCTs in moderate to severe postop pain

Single dose dipyrrone
500mg = 400mg ibuprofen

Cochrane 2004

Effects of acetaminophen on morphine side-effects and consumption after major surgery



7 RCT

n= 491

First 24h

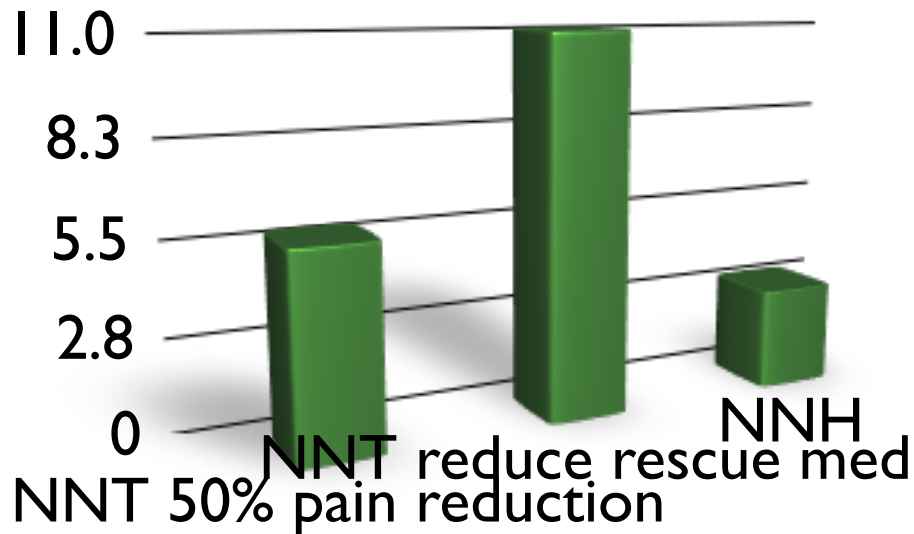
No effect on morphine related side effects

Remy et al. Br J Anaesth 2005

Antiepileptika

Preoperative Gabapentine

Single dose oral gabapentin for established acute postoperative pain in adults



Gabapentin 250 mg is statistically superior to placebo in the treatment of established acute postoperative pain, but the NNT of 11 for at least 50% pain relief over 6 hours with gabapentin 250 mg is of **limited** clinical value

Cochrane 2011

Perioperative administration of pregabalin for pain after robot-assisted endoscopic thyroidectomy: a randomized clinical trial.

Kim SY, Jeong JJ, Chung WY, Kim HJ, Nam KH, Shim YH.

Department of Anaesthesiology and Pain Medicine, Yonsei University College of Medicine, 250 Seongsan-no, Seodaemun-gu, Seoul, 120-752, Republic of Korea.

Abstract

BACKGROUND: Perioperative administration of pregabalin, which is effective for neuropathic pain, might reduce early postoperative and chronic pain. This randomized, double-blinded, placebo-controlled trial (Clinical Trials.gov ID NCT00905580) was designed to investigate the efficacy and safety of pregabalin for reducing both acute postoperative pain and the development of chronic pain in patients after robot-assisted endoscopic thyroidectomy.

METHODS: Ninety-nine patients were randomly assigned to groups that received pregabalin 150 mg or placebo 1 h before surgery, with the dose repeated after 12 h. Assessments of pain and side effects were performed 48 h postoperatively. The incidences of chronic pain and hypoesthesia in the anterior chest were recorded 3 months after surgery.

RESULTS: Ninety-four patients completed the study. Verbal numerical rating scale scores for pain and the need for additional analgesics were lower in the pregabalin group (n = 47) than the placebo group (n = 47) during 48 h postoperatively (P < 0.05). However, incidences of sedation and dizziness were higher in the pregabalin group (P < 0.05). There were no differences between the groups in the incidences of chronic pain and chest hypoesthesia at 3 months after surgery.

CONCLUSIONS: Perioperative administration of pregabalin (150 mg twice per day) was effective in reducing early postoperative pain but not chronic pain in patients undergoing robot-assisted endoscopic thyroidectomy. Caution should be taken regarding dizziness and sedation.

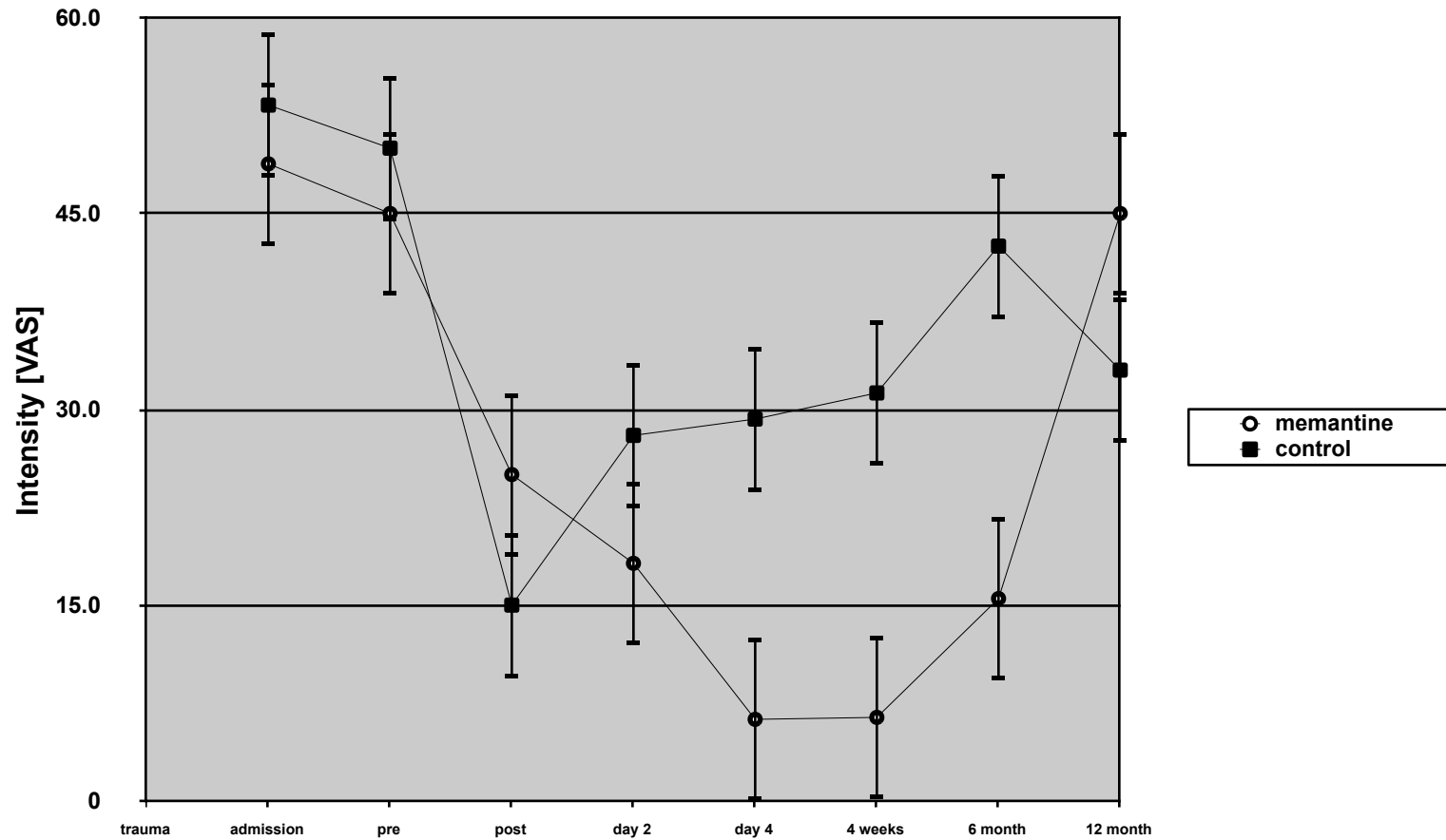
NMDA Antagonisten Glutamat Modulation



Memantine

- Glutamatmodulator
HWZ 100h
PEB 45%
- Indikation
Antidementivum
10-20mg/d,
Einschleichen

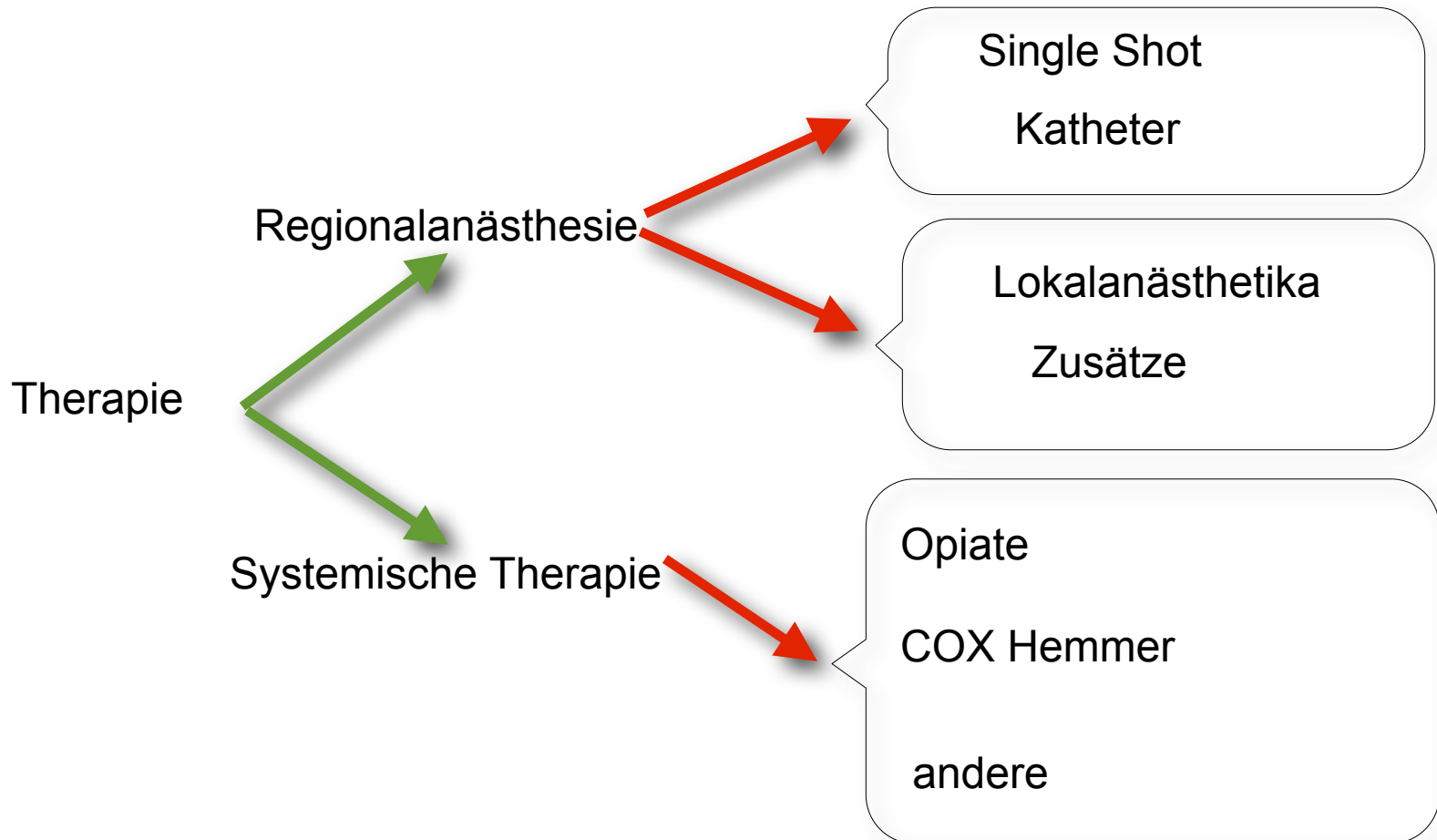
Memantine reduces Phantom Pain



Hit hard and early

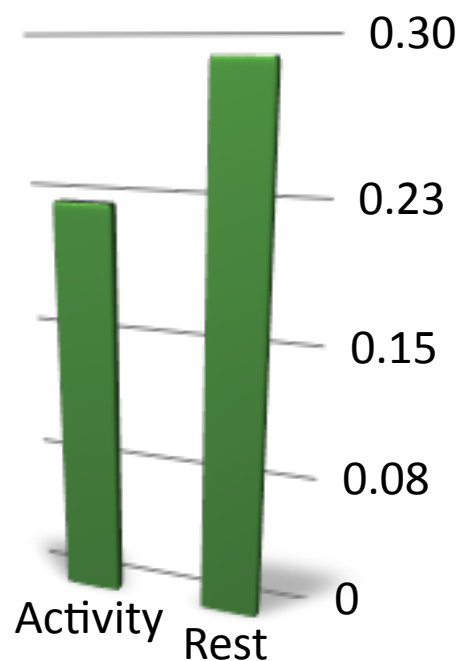


Evidenzbasiertes Konzept



Bed rest for acute low-back pain

Worsening



- N=1963
- People with acute low-back pain who are advised to rest in **bed** have **more pain** and are less able to perform every day activities, on average, than those who are advised to stay active

Cochrane 2009

Houston we have a problem

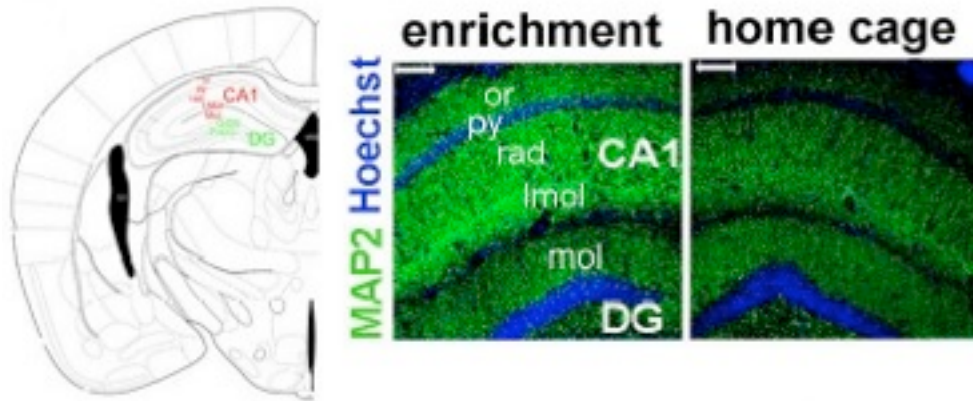


Konzept: Enriched Environment





Alzheimer and Enriched Environment



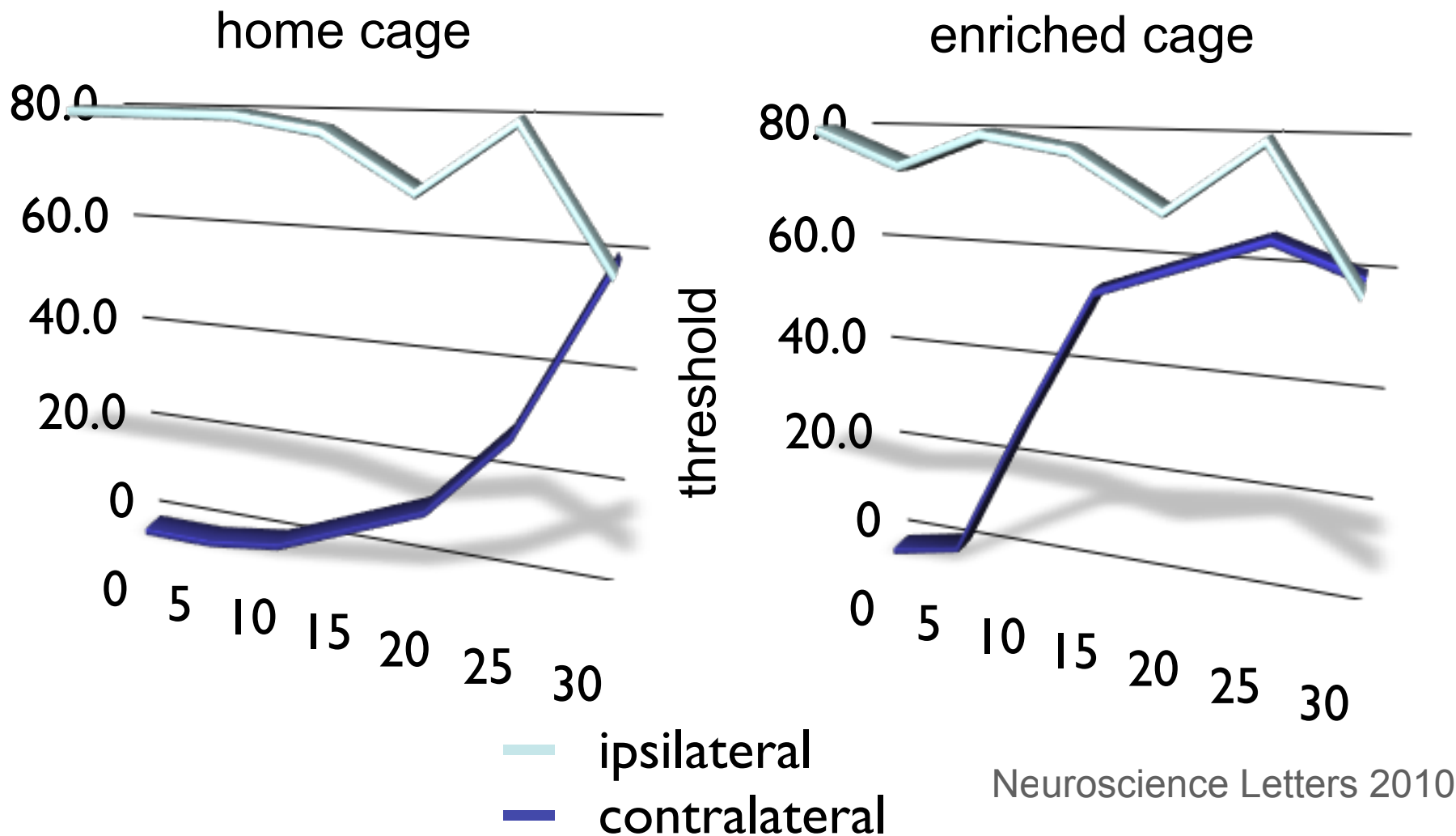
- Enriched environment can restore memory in mice with Alzheimer's-like neurodegeneration

Neuroscience 2007

Enrichment Effect



Preop Housing in an Enriched Environment reduces Postop Pain



Neuroscience Letters 2010

Fango



Tango



Tango und Fango



„We are still confused, but on a much higher level“ (W. Churchill)

