

# *Extracorporeal Shockwave Therapy*

*Principles and technic, application and  
comparison with other therapies*

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*Geneva 2001*

# *Definition*

- Shock-waves (= acoustic waves)
- Pulsating pressure waves
- Extremely short pressure rise
- High peak pressure

**ESW of low energy density:**

$< 0.1 \text{ mJ/mm}^2$

**ESW of high energy density:**

$0.2 - 0.5 \text{ mJ/mm}^2$

# *Principles of Shockwaves*

- Shockwavegenerator
  - Elektromagnetic system
  - Elektrohydraulic system
  - Piezoelectric system
- Liquid medium of transmission
- Ultrasound / radio focus-system
- Coupling cushion

*Ultrasound Guided  
Extracorporeal Shockwave  
Therapy (7.5 MHz)*

# *Preparation - Therapy - Post Treatment Care*

- Sedation
- Shaving, ultrasound gel
- 1-3 treatments
- 5-20 days treatment intervalls
- Energy density: 0.2-0.5 mJ/mm<sup>2</sup>
- Hand-walking; no stall-rest

# *Indications for ESWT*

- Insertiondesmitis
- Tendinitis / Desmitis
- Calcifications in tendons and ligaments
- Arthrosis
- Osteoporosis

# *High Suspensory Desmitis*

## *(n=124)*

- 67 horses - lameness-free or almost sound (54%)
- 37 horses - improved (30%)
- 20 horses - unchanged (16%)

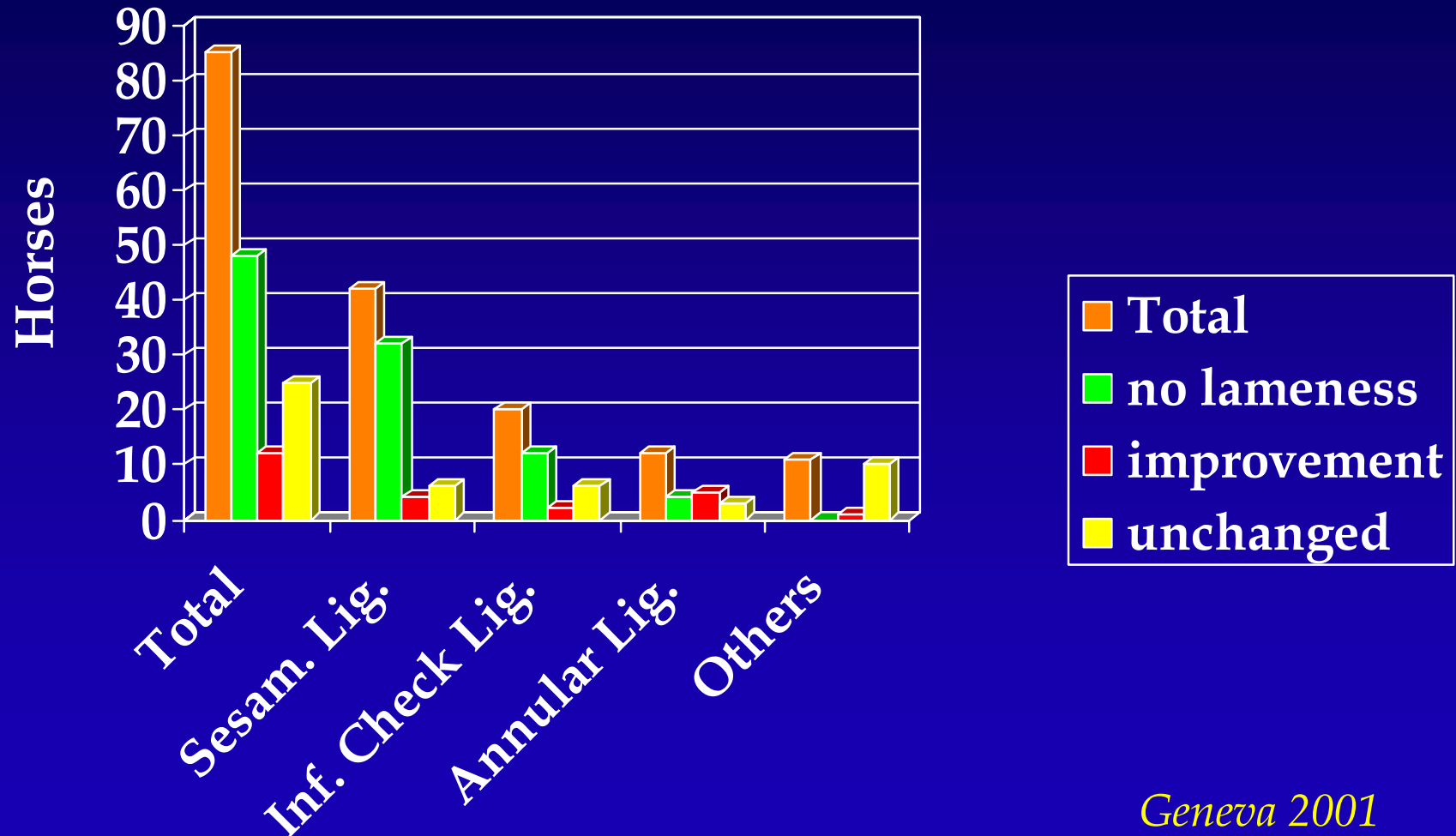


# *Other Forms of Desmitis*

## *(n=85)*

- 48 horses - lameness-free or almost sound (56%)
- 12 horses - improved (14%)
- 25 horses - unchanged (30%)

# *ESWT of Different Forms of Desmitis (n=85)*

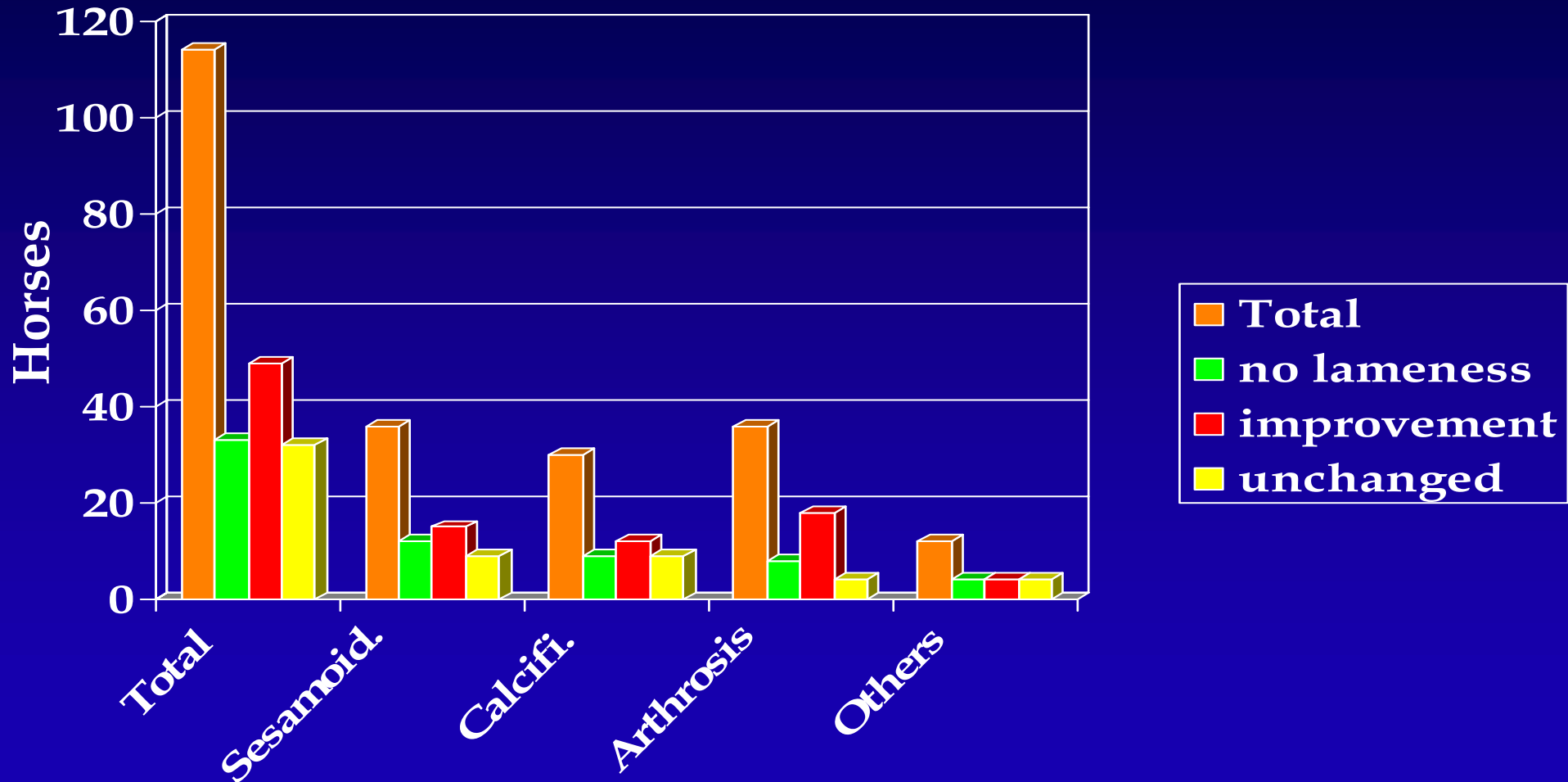


# *Other Indications*

## *(n=114)*

- 33 horses - lameness-free or almost sound (29%)
- 49 horses - improved (43%)
- 32 horses - unchanged (28%)

# *ESWT of Other Indications* (n=114)



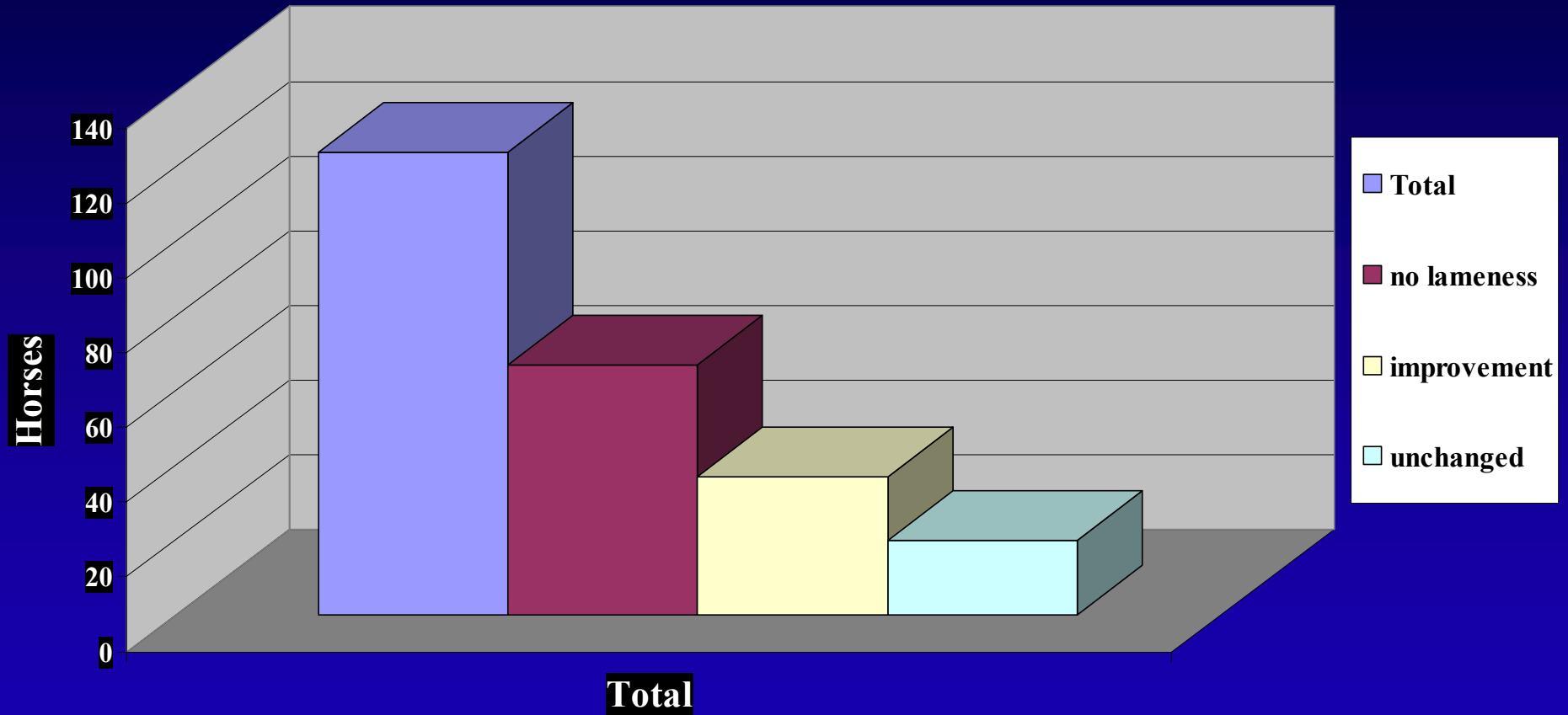
# *Advantages*

- Minimal invasive - No surgery
- Low risk method
- Requires no general anaesthesia
- No hospitalisation required
- Cosmetic
- Successful therapy - even in case of unfavourable prognosis

# *Disadvantages*

- No long-term results available
- Side effects (hematoma / inflammation)
- Costs
- No wonders; not healing everything, ...

# *ESWT of HSD (n=124)*



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