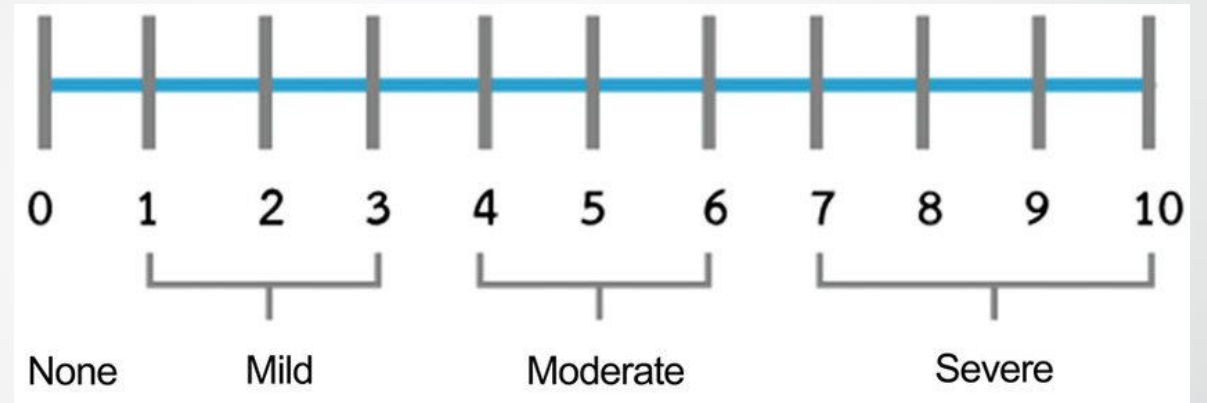# Efficacy of the Discretized Analog (DISCAN) Scale Method for Assessing the Subjective Experience of Pain Intensity Levels During Post-Operative Care in Older Adults
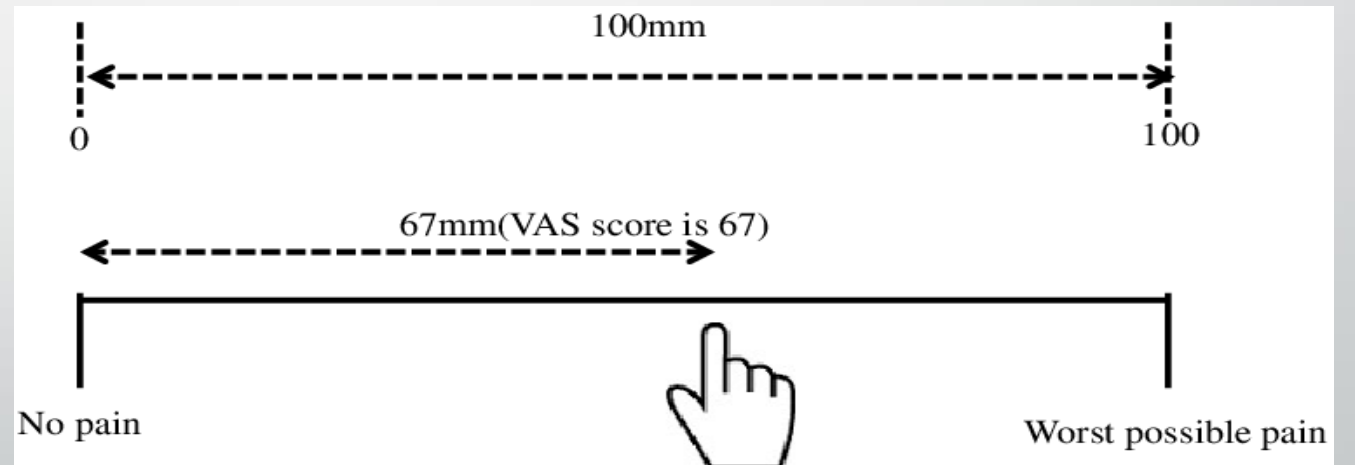
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Background: Post-Operative Pain Assessment

- Numerical rating scale (NRS)

- Visual Analog Scale (VAS)

Pain Assessment in the Elderly

- Limited by:
  - Vision or hearing deficits
  - Motor deficits
  - Cognitive status
    - Understanding of scale
    - Dementia

Literature Review

- NRS
  - Easy to use in cognitively intact
  - Less preferred
  - Limited in the elderly
- VAS
  - High error rates
  - Least preferred
  - Limited in the elderly
- DISCAN
  - Not studied in pain

Discretized Analog (DISCAN) Scale

Developed by Singh and Bilsbury to assess subjective variables (eg. anxiety)

Used in psychology

Clinician-administered

Reference levels are set (eg slight, moderate, severe, very severe) **These can be customized**

Patients are asked to respond to 10 paired or group comparisons

Originally scale filled in by hand, graphically inserting patient responses along the scale
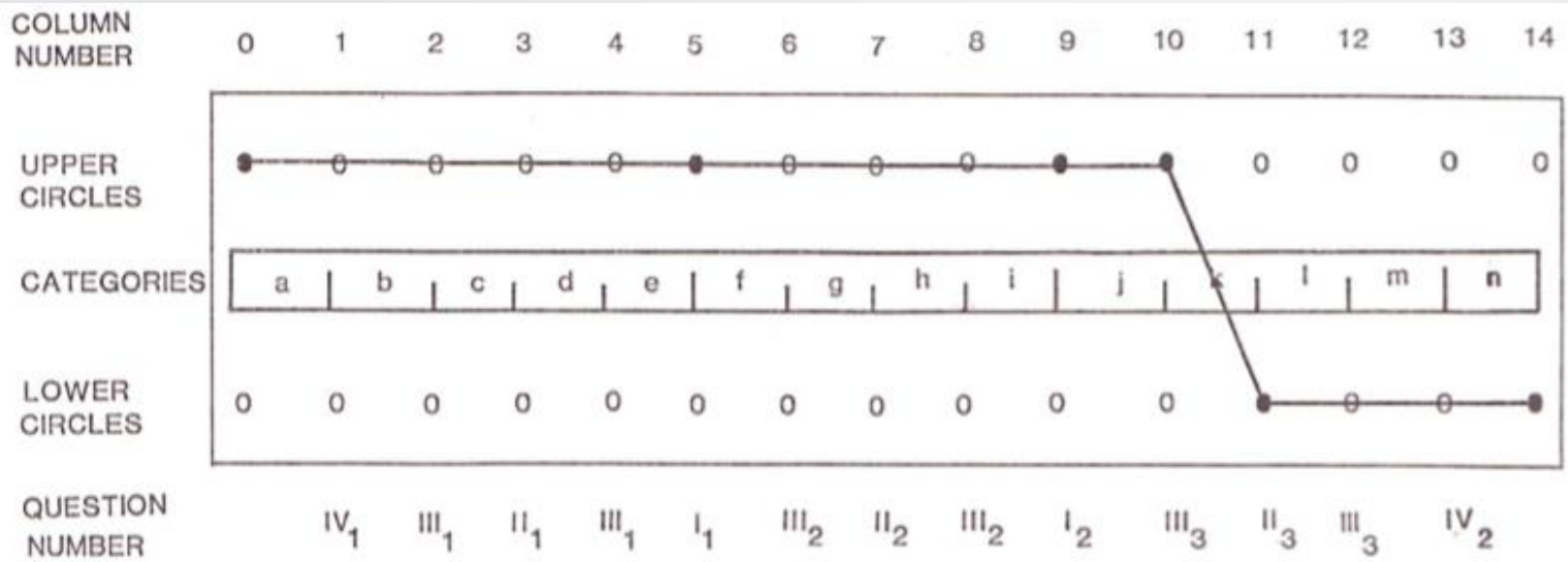
Point at which line crosses axis is pain rating
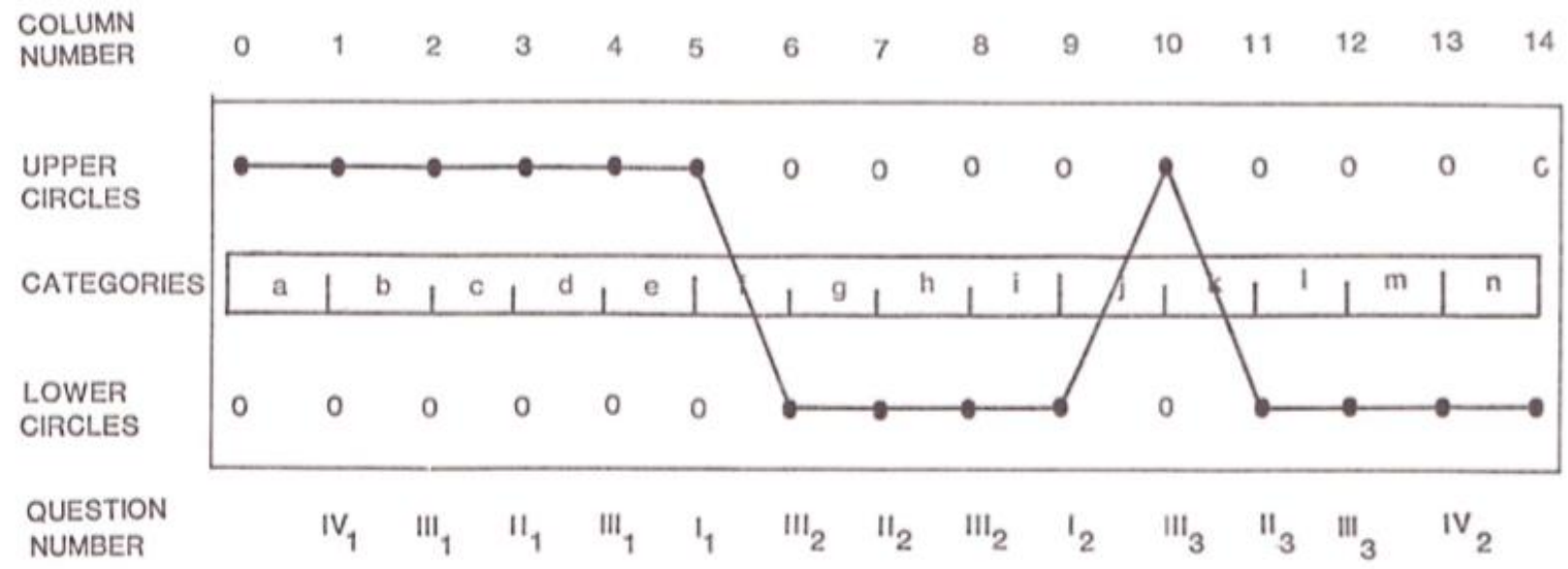
Variable is graded along a 14 point scale (A-N)

Discretized Analog (DISCAN) Scale

Discretized Analog (DISCAN) Scale

(b)

Digital application

- Developed by Dr. Bautista

- User and patient friendly

- Algorithm condensed into 4 questions using customized reference levels

Methods

- Prospective cohort study analysing the validity and reliability of DISCAN scale in assessing post operative pain intensity levels

- Patients: young-older (45-74 years) and old-older (75 years +) undergoing orthopedic surgeries (hip and knee) admitted to SCMH and receiving PCA pumps

- Intervention: DISCAN pain scale

- Comparison: NRS, VAS

- Outcome: Pain rating, PCA analgesia use

Participants to be studied

- Inclusion Criteria:
  - Older adults who are admitted to SCMH post-operatively
  - Orthopedic procedures (hip and knee)
  - PCA

Participants not studied

- Exclusion Criteria
  - Pre-op delirium
  - Moderate-severe cognitive impairment
    - History and MMSE < 23 points
  - Severe visual, sensory, or auditory deficits

Procedures

- Recruitment:
  - Total Joint Assessment Clinic (TJAC) at SCMH
- Pre-operative:
  - Demographics
  - MMSE
  - Baseline DISCAN, NRS, VAS

Procedures

- Post-operative:

  - Research nurse assesses patients in the am & pm on POD 1-3 using three pain scales (DISCAN, NRS, VAS)

  - Second research nurse to collect information on PCA usage during POD 1-3

Progress

- Literature Review ✓
- ARC Grant Awarded ✓
- Research proposal ✓
- Ethics application
- RPAC application
- Recruitment and Study initiation

Conclusions

Pain assessment in the elderly is challenging

NRS and VAS may be limited in the elderly

DISCAN may offer an alternative

Questions?