Visual Cueing

Visual cueing refers to the use of **external visual stimuli** to assist or modify motor actions, especially gait, in patients with neurological disorders such as freezing of gait.

Purpose

Visual cues aim to:

- Trigger or maintain gait initiation.
- Improve stride length and rhythm.
- Bypass defective internal motor circuits (e.g., basal ganglia loops).
- Reduce episodes of freezing or akinesia.

Examples

- **Laser lines** from shoes or canes to step over.
- **Colored tape** strips placed on the floor at intervals.
- **Tiled floors or lines on pavement** used as natural environmental guides.
- **AR/VR systems** for training with dynamic visual stimuli.

Mechanism

Visual stimuli engage alternative motor pathways (parietal–premotor–cerebellar), bypassing impaired basal ganglia–SMA loops. This allows compensation in diseases such as Parkinson’s disease, Wilson’s disease, and normal pressure hydrocephalus.

Clinical Use

Primarily studied in Parkinson’s disease, visual cueing has also shown benefit in:

- Wilson’s disease
- Atypical parkinsonism
- Post-stroke gait disturbances
- Normal pressure hydrocephalus

See also: freezing_of_gait, wilson_disease, nph, gait_training

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