Implementation of Patient-Selected Guided Relaxation Techniques During Acupuncture: A Quality Improvement Initiative

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SAFETY / QA / QI PROJECT

BACKGROUND

- Acupuncture is an established part of multimodal chronic pain care, yet **structured relaxation techniques are not routinely built into visits.**[1,2]
- Diaphragmatic breathing and binaural beats promote parasympathetic activation, potentially reducing sympathetic arousal and improving pain perception.[3,4]

Aim

Integrate patient-selected guided breathing or binaural beats into routine outpatient acupuncture and evaluate feasibility, uptake and pain outcomes.

METHODS

BASELINE

20 consecutive acupuncture sessions before implementation

WORKFLOW CHANGE

Every patient offered 3 options at each visit: acupuncture alone, guided breathing, or binaural beats

POST-IMPLEMENTATION

Retrospective review: 68 sessions, 35 patients, 6 months

Process measure: uptake of adjunctive relaxation

Outcome measures: change in NRS before vs. after each session; proportion of sessions with ≥50% pain reduction.

Analysis: exploratory comparisons between groups (ANOVA).

IRB approval was not required because this was a quality improvement initiative.

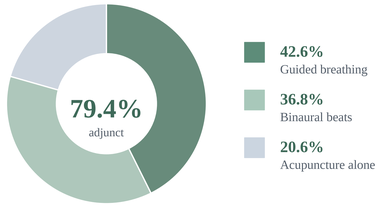
PATIENT-SELECTED OPTIONS

Guided diaphragmatic breathing — 29 sessions
Clinician-guided, 8-4-8-8 cadence (inhale 8, hold 4, exhale 8, hold 8)

Binaural beats — 25 sessions
6-Hz theta recording via personal stereo earbuds

Acupuncture alone — 14 sessions
Usual care

UPTAKE



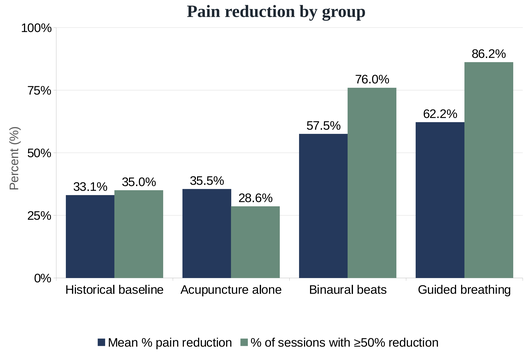
FEASIBILITY

- No additional staffing
- No specialized equipment
- No meaningful increase in visit duration

RESULTS

Group	n	Pre-NRS	Post-NRS	Change	% change
Guided breathing	29	5.4	2.2	3.2	62.2%
Binaural beats	25	5.9	2.5	3.4	57.5%
Acupuncture alone	14	5.9	3.9	2.1	35.5%
All sessions	**68**	**5.7**	**2.7**	**3.0**	**55.0%**
Historical baseline	*20*	*6.1*	*4.1*	*2.0*	*33.1%*

Table 1. Pain outcomes by group. Historical baseline shown for comparison.



Exploratory comparisons

Guided breathing vs. acupuncture alone	p = 0.019
Binaural beats vs. acupuncture alone	p = 0.026
Guided breathing vs. binaural beats	p = 0.63
Overall ANOVA	p = 0.047

≥50% reduction: guided breathing 25/29, binaural beats 19/25, acupuncture alone 4/14, historical baseline 7/20 sessions.

DISCUSSION

- **Feasible.** Once offered, an adjunct was chosen in 4 of 5 sessions, with no added staffing, equipment or visit time.
- **Pain relief.** Sessions with either adjunct averaged 57–62% pain reduction versus about 35% with acupuncture alone and 33% at historical baseline.
- **Plausible mechanism.** Slow diaphragmatic breathing and theta binaural beats may shift autonomic balance toward parasympathetic activity and reduce pain perception.[3–5]
- **Choice: Offering a menu respects patient preference; the two adjuncts performed similarly (p = 0.63).**

Limitations: patient self-selection; retrospective, single-center design; historical comparison; repeated sessions within patients; immediate pre/post pain scores only. Causality cannot be inferred.

NEXT STEPS

- Ongoing quality monitoring to assess sustainability
- Prospective randomized trial to confirm effectiveness

Conclusion

Offering patient-selected guided breathing or binaural beats during acupuncture is a low-cost, low-burden change associated with greater immediate pain relief.

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