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## COMMON EEG SPECTRAL POWER CHARACTERISTICS DURING MEDITATION IN FIVE MEDITATION TRADITIONS

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Introduction: Different meditation practices reportedly affect brain electric activity.

Objectives: To assess common characteristics in brain electric activity during the state of meditation across different meditation traditions.

Aims: Do meditation traditions share commonalities in EEG spectral power changes from task-free resting to meditation?

Methods: Data from 71 experienced meditators of five meditation traditions were analyzed (13 Tibetan Buddhists, 15 Qigong, 14 Shaja Yoga, 14 Ananda Marga Yoga, and 15 Zen).

Power spectral results of multichannel EEG recordings (average reference) during meditation were compared with those during pre- and post-meditation task-free resting. Spectra were averaged across channels (19-58), and subject-wise normalized. Integrated power was computed for the eight independent frequency bands (delta through gamma).

Results: During meditation compared to the average of pre- and post-meditation resting, across the five traditions, there was a significant decrease of power in the alpha-2 band (10.5-12 Hz), and significant increases of power in the beta-3 (21.5-30 Hz) and gamma (35-44 Hz) bands; theta (6.5-8 Hz) band power showed an increase at  $p=0.14$ .

Conclusions: The results indicate that EEG spectral power differences between task-free resting state EEG versus meditation state EEG show commonalities that are shared by all five meditation traditions in spite of important differences in meditation techniques.