The effect of different condylar positions on masticatory muscle electromyographic activity in humans.

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OBJECTIVES: The purpose of this study was to determine a condylar position that permitted the greatest total temporalis and masseter muscle activity in maximum static clench. STUDY DESIGN: Twenty normal adults, 9 women and 11 men, were evaluated to determine masseter and temporalis activity in maximum static clench with mandibular condyles in different therapeutic positions. Bimanually manipulated, leaf gauge, centric occlusion, and neuromuscular condylar positions were studied. RESULTS: When mandibular condyles were placed anteroinferiorly in a neuromuscular position, total masticatory muscle recruitment was the greatest. In a bimanually manipulated or a leaf gauge position, mandibular condyles were positioned superoposteriorly, producing the least amount of muscle recruitment. CONCLUSIONS: The result of any therapeutic position should be an improvement in muscle function. With respect to balance and activation, a neuromuscular condylar position proved to be the position capable of recruiting the greatest motor unit activity when compared with a bimanually manipulated position, a leaf gauge position, and a neuromuscular position.

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