

Non-Verbal Patterns of Communication in the Operating Room Casey Rose MD, Jennifer Martin PhD, An-Lin Cheng PhD, and Gary Sutkin MD

Objective/ Hypothesis

Our objective was to use Laban Movement Analysis to study how intraoperative nonverbal communication expressed by resident and attending surgeons is associated with resident autonomy leading up to critical moments.

We **hypothesized** that confident nonverbal communication was more likely to be associated with resident operative autonomy.

Surgilab Kinesic Assessment Tool									
	1	2	3	4	5				
Space	Indirect	Somewhat Indirect	Mid-range	Somewhat Direct	Direct				
Light	Light	Somewhat Light	Mid-range	Somewhat Strong	Strong				
Time	Slow	Somewhat slow	Mid-range	Somewhat Quick	Quick				
Plane 1	Falling	Somewhat Falling	Mid-range	Somewhat Rising	Rising				
Plane 2	Retreating	Somewhat Retreating	Mid-range	Somewhat Advancing	Advancing				
Plane 3	Widening	Somewhat Widening	Mid-range	Somewhat Narrowing	Narrowing				

Surgilab Vocal Assessment Tool								
	1	2	3	4	5			
		Somewhat		Somewhat				
Pitch	High	High	Mid-range	Low	Low			
		Somewhat		Somewhat				
Volume	Strong	Strong	Mid-range	Light	Light			
		Somewhat		Somewhat				
Rate	Slow	Slow	Mid-range	Quick	Quick			
		Somewhat		Somewhat				
Inflection	Rising	Rising	Mid-range	Falling	Falling			



movement without rotation.



An Attending (Right) is seen using a Burr Drill during Maxillofacial surgery. Kinesic rating of this Attending using a drill with their left hand would indicate a somewhat indirect, somewhat light, somewhat slow, falling, somewhat advancing, and somewhat narrowing movement without inward rotation.

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A resident (Right) is seen using a bipolar during a melanoma excision. Kinesic rating of this resident using a bovie with their right hand would indicate an indirect, somewhat light, somewhat slow, falling, somewhat advancing, and somewhat narrowing





A resident (left) is seen receiving forceps from an OR technician (right) during a breast reconstruction. Kinesic rating of this resident receiving forceps with their right hand would indicate a direct, somewhat strong, somewhat quick, somewhat rising, advancing, and somewhat widening movement without rotation.

A resident (left) is seen advancing a drill during an ankle surgery. Kinesic rating of this resident advancing the drill with their right hand would indicate a direct, strong, quick, somewhat falling, and advancing motion.



Results

Neither attending nor resident kinesic or vocal variables were significantly correlated with resident self-perception of autonomy.

Laban Movement Analysis

A validated movement analysis tool to rate kinesic (time, space, plane, and rotation) and vocal (volume, pitch, rate, and inflection) communication often used in theatre.

