

SMI (Sperm Motility Index) A CONTRIBUTING PREDICTOR OF MALE FERTILITY

Background: SQA automated analyzers report Sperm Motility Index (SMI), a composite parameter characterizing the quality of motile sperm based on motile sperm concentration (MSC) and curvilinear velocity (VCL).

SMI definition: SMI is an integrated parameter that includes both motile sperm concentration and curvilinear velocity (VCL) along a spectrum of dynamic range. It is reported in whole numbers.

Clinical meaning: Studies have shown that SMI may highly correlate to male fertility potential. Three levels are suggested for grading sperm SMI in semen samples: 'LOW' (SMI < 80), 'MODERATE' (SMI = 80-160) and 'HIGH' (SMI > 160). The suggested SMI reference value (cutoff) is 80.

Conclusions:

- SMI can be used as one screening parameter to assess/grade male fertility potential.
- SMI, an automated integrated parameter, cannot be assessed manually.
- SMI fertility grading has been established based on various studies.
- Other parameters, in addition to SMI must be considered for an accurate assessment of male fertility.

