

**Appendix D: Assessment of ageing surgeons – strengths and limitations of available tools (Informed by RACS publications<sup>1,2</sup>, literature review, and interview findings)**

<b>Assessment method</b>	<b>Issues or concerns</b>	<b>Strengths</b>	<b>Limitations</b>
<p><b>Health assessment</b> Assessment by health practitioner of physical health, mental health</p>	Health concerns e.g. cognitive decline, sensory impairment (visual or hearing loss), alcohol use	Quantifiable measures for some conditions Can be repeated after correction or treatment	Normative values for cognitive testing (of surgeons) uncertain
<p><b>Self-assessment:</b> Surgeon assesses own capabilities and limitations using a self-assessment tools and identifies learning opportunities</p>	Self-identified areas of weakness in any domain	Performed at time and place to suit surgeon Identifies strengths and areas for improvement	Requires insight Surgeon may avoid self-assessing weak domains External feedback lacking
<p><b>Retrospective audit of cases</b> Collect data on clinical activities and outcomes, analyse against standards, performance indicators and outcome parameters, peer review to identify any potential improvements, feed results back</p>	Performance relative to peers e.g. volume of cases, choice of procedure, outcomes of surgery	Allows analysis of performance against peers Can take account of confounders such as case-mix and system factors	Selection bias if cases chosen by surgeon Usually limited to written record Requires independent peer with equivalent expertise
<p><b>Direct Observation of Procedural Skills</b> Observe surgeon performing a procedure on a patient in the workplace, provide structured feedback to focus future learning</p>	Useful for technical domains e.g. deterioration in fine motor skills e.g. tremor; sensory impairment e.g. visual loss	Clear scoring criteria Targeted feedback Quantifiable for future re-assessment	Observer bias Hawthorne effect (behaviour changes under observation) Requires trained observers
<p><b>Observation of Non-technical Skills for Surgeons</b> Observe and assess non-technical skills in the workplace, provide structured feedback to focus future learning</p>	Useful for non-technical domains e.g. communication, teamwork	Clear scoring criteria Targeted feedback Quantifiable for future re-assessment	Observer bias Hawthorne effect Requires trained observers
<p><b>Contextual risk analysis</b> Identify risks associated with local supports, team, isolation and past events</p>	Contextual issues e.g. professional isolation, fatigue due to workload	Useful for understanding contextual influences on performance	Same risk factor may have different effect on different surgeons

<p><b>Incident monitoring</b> Review of reports on incidents such as patient complaints, notifications to Medical Board, coroners' reports, media reports, incident reports, and inquiries</p>	<p>Most domains of performance e.g. communication, teamwork, procedural skills</p>	<p>Can identify outliers Taps into experience of patients and families</p>	<p>Contribution of surgeon to multi-factorial event may be hard to assess Many adverse events do not result in a complaint or incident report</p>
<p><b>Surgical coaching</b> Provide structured feedback on areas in need of development and support to achieve a specific goal</p>	<p>Most domains of performance e.g. adoption of new technology</p>	<p>Coaching can be done by peer or expert Identifies strengths and areas for improvement Personalised feedback</p>	<p>Requires the 'right person' for successful peer interaction</p>
<p><b>360-degree feedback:</b> Gather feedback from surgeon's trainees, peers, senior colleagues, nursing and support staff, patients, and supervisor, as well as a self-evaluation</p>	<p>Most domains of performance e.g. communication, teamwork, procedural skills</p>	<p>Depth of information from team members at all levels</p>	<p>Resource intensive Selection bias if respondents chosen by surgeon Requires skilled feedback</p>
<p><b>Simulation with scoring and feedback</b> Observe and assess skills while surgeon is immersed in replication of real experience</p>	<p>Most domains of performance e.g. communication, teamwork, procedural skills</p>	<p>Useful for technical and non-technical skills</p>	<p>Resource intensive Artificial environment may not correlate with 'real-life' performance</p>

## References:

1. Royal Australasian College of Surgeons: A Guide to aid the assessment and development of surgeons. 2011.
2. Royal Australasian College of Surgeons: Guide to Surgical Audit and peer review. 2014.