

## Helpful Lean Tools to Support the Rapid Improvement Event (RIE) Process

<b>Major RIE Activities</b>	<b>Examples of Lean Tools for Each RIE Activity: Preparing for the RIE</b>	<b>Balzer (2020) LHE 2<sup>nd</sup> Ed. page reference</b>
Document “current state” process	Walk the Process (Genba Walk); Spaghetti Diagrams; Cross-Functional Flowchart (Swim Lanes); Process Mapping; Value Stream Mapping; Top-Down Flowchart; Five Whys	Page 212
Identify waste and impediments to flow in “current state” process	Muda (wastefulness), Mura (unevenness), Muri (overburden); TIMWOODS/WORMPITS/DOWNTIME (Acronyms for Categories of Waste); Five Whys; Cause-and-Effects (Fishbone) Diagram	Page 221
Analysis of “current state” process	Five Whys; Pareto Chart; Pain Points; Gap Analysis (current vs. future state); Cause-and-Effects (Fishbone, Ishikawa) Diagram; Failure Mode and Effects Analysis (FMEA); Interrelationship Diagram; Internal/External Benchmarking	Page 226
Develop improvement ideas	Brainstorming; Brainwriting 6-3-5; Nominal Group Technique; Solution Statements; Affinity Diagram; Five Whys; Multi-Voting; Storyboard;; 1-2-4-All	Page 232
Prioritize improvement solutions	Ease/Benefit Matrix (PICK Chart, Impact/Effort Matrix, Prioritization Matrix); Solution Selection Matrix; Five Whys	Page 240
Propose “future state” visual map and test and verify the process	“Virtual” Genba Walk; Spaghetti Diagram; Cross-Functional Flowchart (Swim Lanes); Process or Value Stream Mapping; Takt Time; Top-Down Flowchart; Trystorming (mini-experiments or pilot tests); Plan, Do, Check, Act (PDCA) Pilot; Error Proofing (Poka Yoke); Total Productive Maintenance (TPM); Five Whys	Page 243