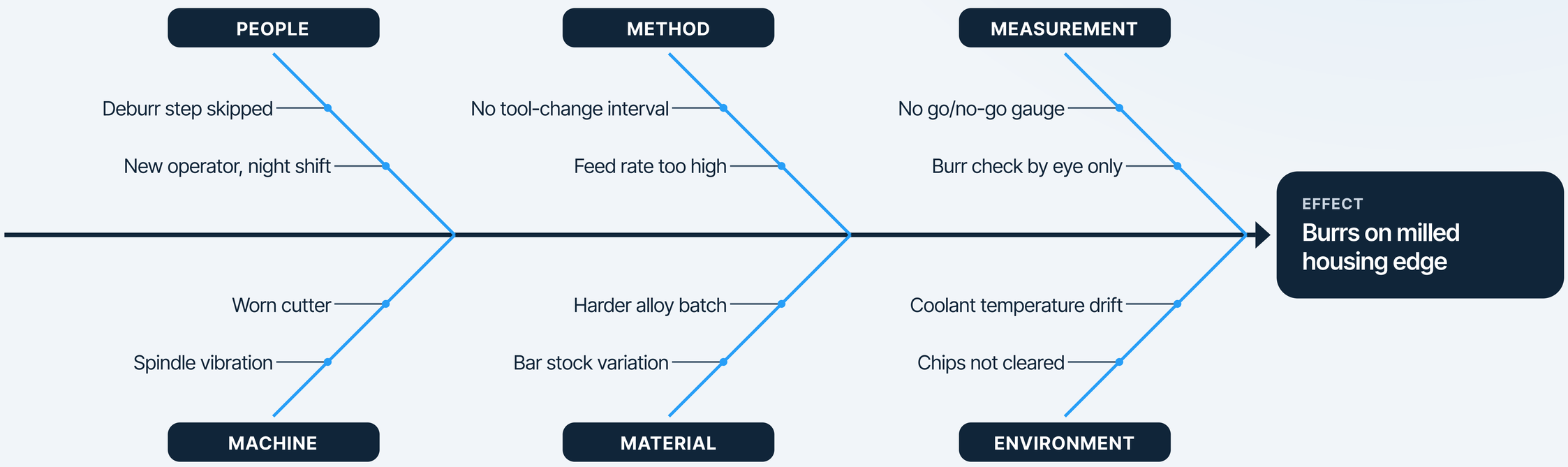
QUALITY MANAGEMENT

Ishikawa Fishbone Diagram

The Ishikawa or fishbone diagram arranges the possible causes of one clearly defined effect into categories, so a team can explore them systematically before testing them.

01 THE CORE MODEL

6M CATEGORIES · ONE DEFINED EFFECT



Effect

The specific problem, stated as a measurable gap, at the head of the fish.

Categories

6M: people, method, measurement, machine, material, environment.

Possible causes

Hypotheses to test with data, not conclusions.

02 FROM IDEAS TO CAUSES

A fishbone lists candidates; data decides which ones are real.

BRAINSTORM — VERIFIED

FISHBONE AS THE ANSWER

- Long lists without priorities
- The loudest voice wins
- No link to data

FISHBONE AS A STARTING POINT

- Vote, then test the top candidates
- Check each one at the gemba
- Feed the confirmed cause into 5 Whys

03 WORKED EXAMPLE

BURRS ON MILLED HOUSINGS · NARROWING DOWN

EFFECT
Burrs on edge
found at final check

→

CANDIDATES
12 causes
across six categories

→

TEST
Cutter wear
burrs rise with tool life

→

ACTION
Tool-change interval
set from the data

04 MANAGEMENT TAKEAWAYS

01 — Define the effect precisely

"Burrs on edge A, line 2, since March" beats "quality issue".

02 — Bring the people who do the work

Operators and maintenance know causes engineers never see.

03 — Test before you fix

Pick the likeliest causes and confirm them with data.

05 COMMON MISTAKE

LIMITATION

Treating every bone as true

A full diagram feels like progress, but untested causes lead to the wrong fixes.