

Autonomous Maintenance Module 13

© 1996-2013, John Black and Associates LLC
 (modified from Hiroyuki Hirano, Productivity Press).



Committed Leaders

Autonomous Maintenance: Key Points

- ▶ The four types of maintenance are:
 1. Preventative maintenance.
 2. Predictive maintenance.
 3. Breakdown maintenance.
 4. Autonomous maintenance.
- ▶ Equipment operators share the responsibility for the performance and health of their equipment.
- ▶ Autonomous maintenance is an eight-step process.

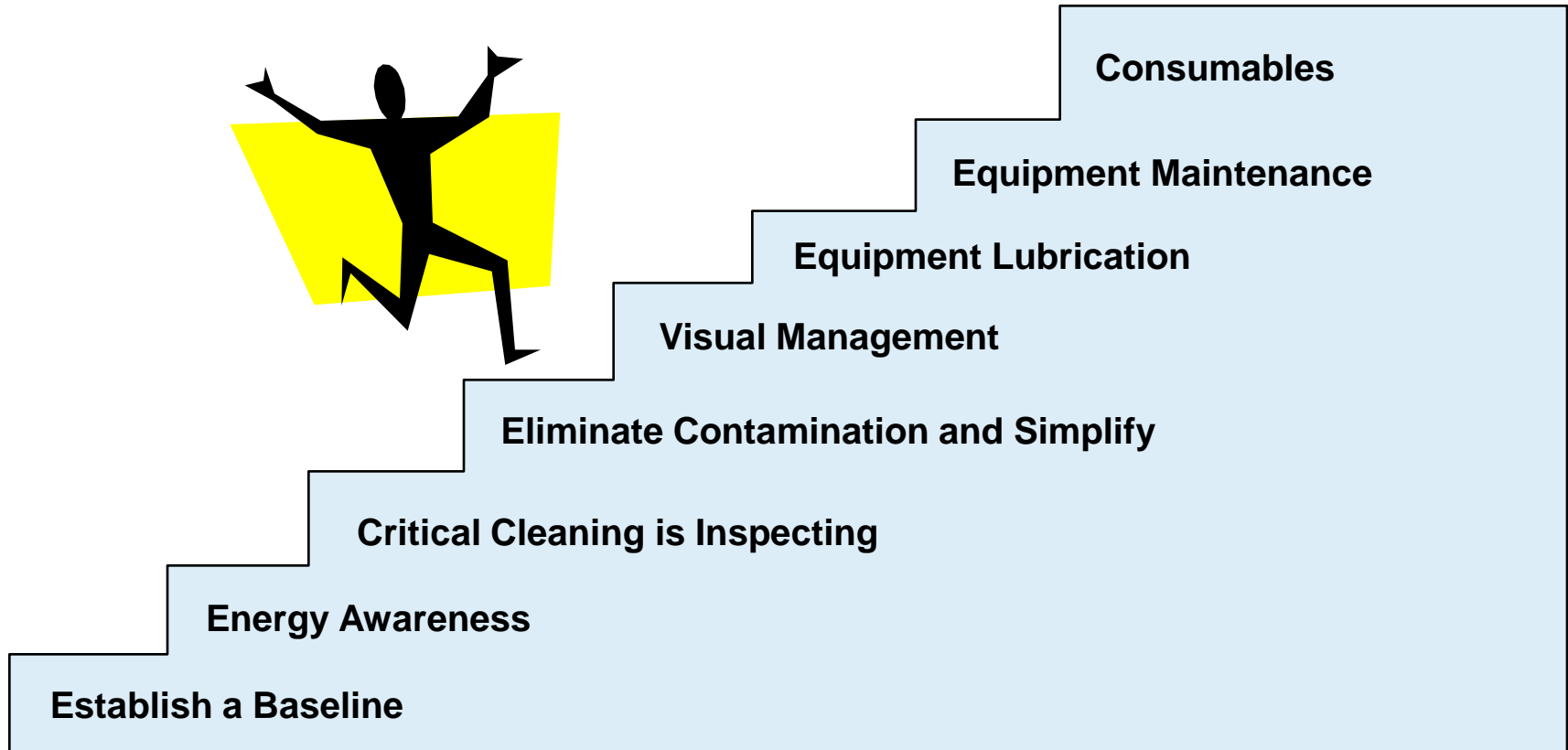
Equipment and Machines are an Integral Part of Healthcare



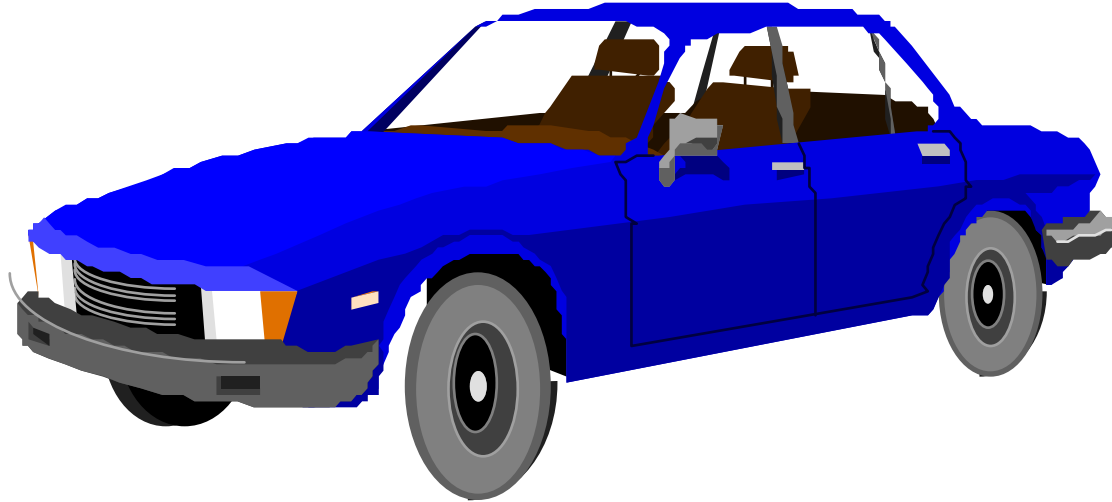
Types of Maintenance

- ▶ **Preventive Maintenance:** Daily activities designed to maintain basic equipment conditions.
- ▶ **Predictive Maintenance:** Detects equipment deterioration through condition-based analysis. Speed reduction, vibration analysis, lubricant contamination, etc.
- ▶ **Breakdown Maintenance:** Corrects equipment deterioration after the occurrence of a breakdown.
- ▶ **Autonomous Maintenance:** Equipment operators accept and share responsibility with maintenance for the performance of their equipment

8 Steps to Implement Autonomous Maintenance



To Establish the Baseline Condition of a Used Car



- Check for body damage.
- Look for leaks.
- Check tire wear.
- Vibration.
- Observe the gauges.
- Listen for vibrations and noises.
- Check for unusual odors.

Establish a Baseline: Determine the Condition of your Crash Cart



**Is the cart free
of:**

Dirt / Dust.
Faulty wheels.
Missing items.
Expired items.

**Is the cart
difficult to:**

Move.
Inspect.
Reach.
Clean.

**Can you identify
the following?**

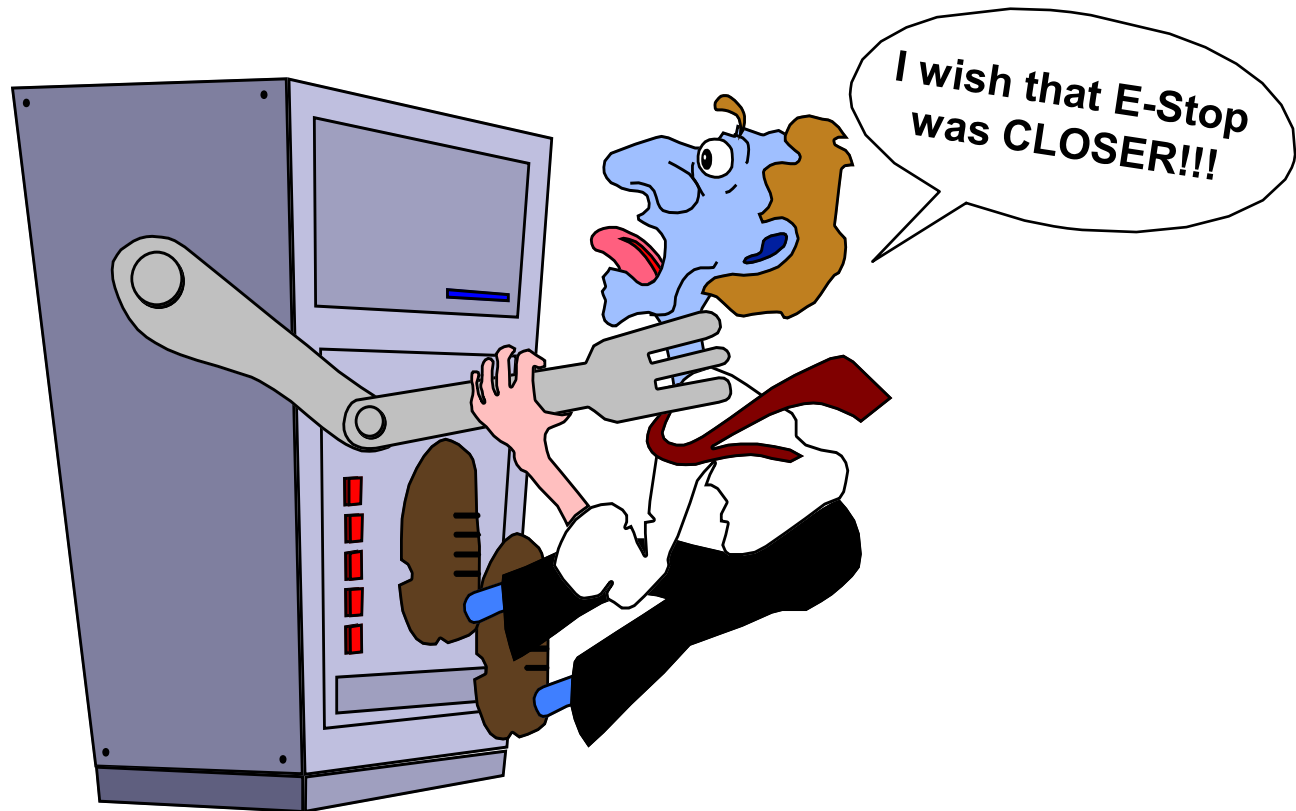
Safety hazards.
Go-no-go points.
Items in need of
maintenance.

Cleaning is Inspecting



Q: Do you wash your car by hand or in a car wash?

Simplify



Simplify equipment for easy and safe cleaning, inspection, and maintenance.

The Five Whys



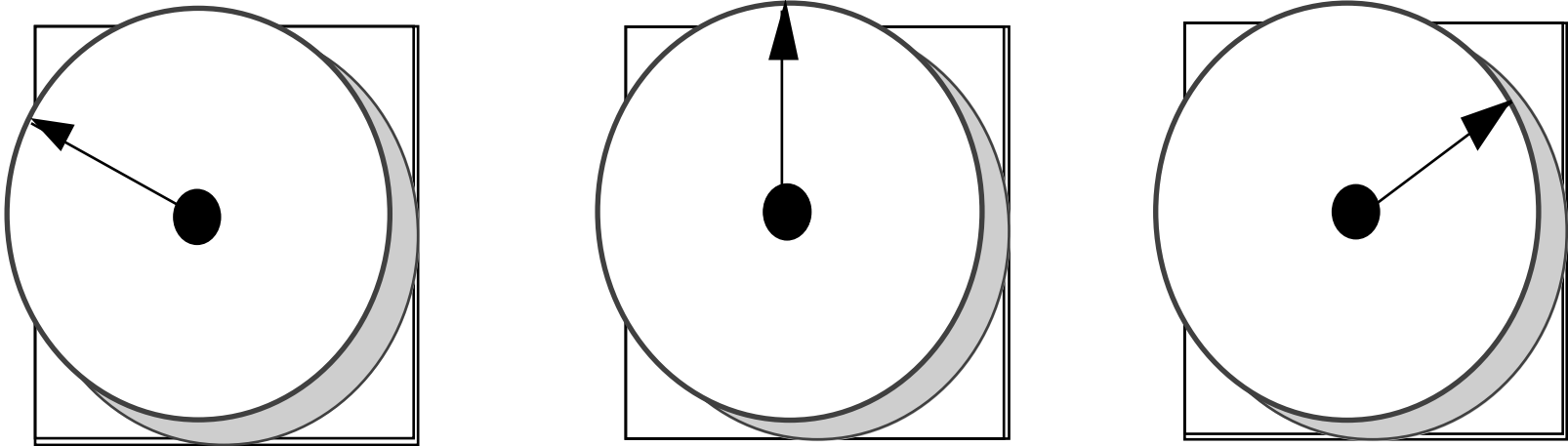
EKG Machine

**Ask “Why?” five times.
What can the answers tell you?
You still have to take action!**



IV Pump

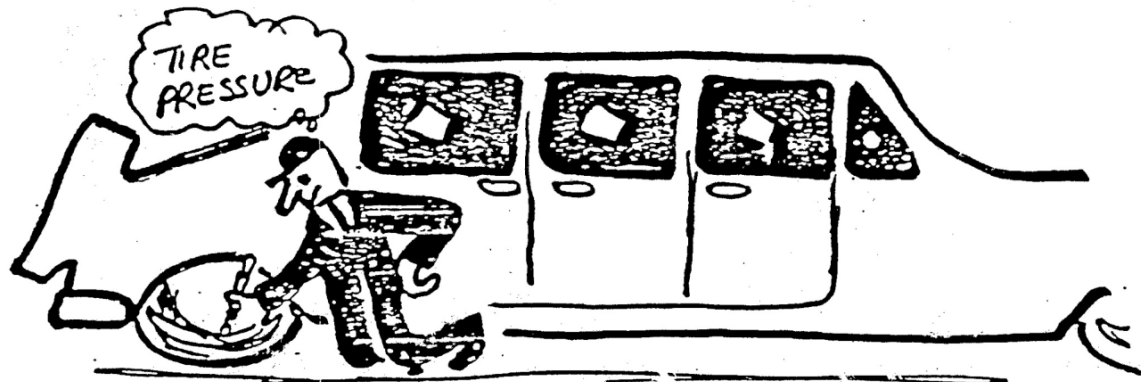
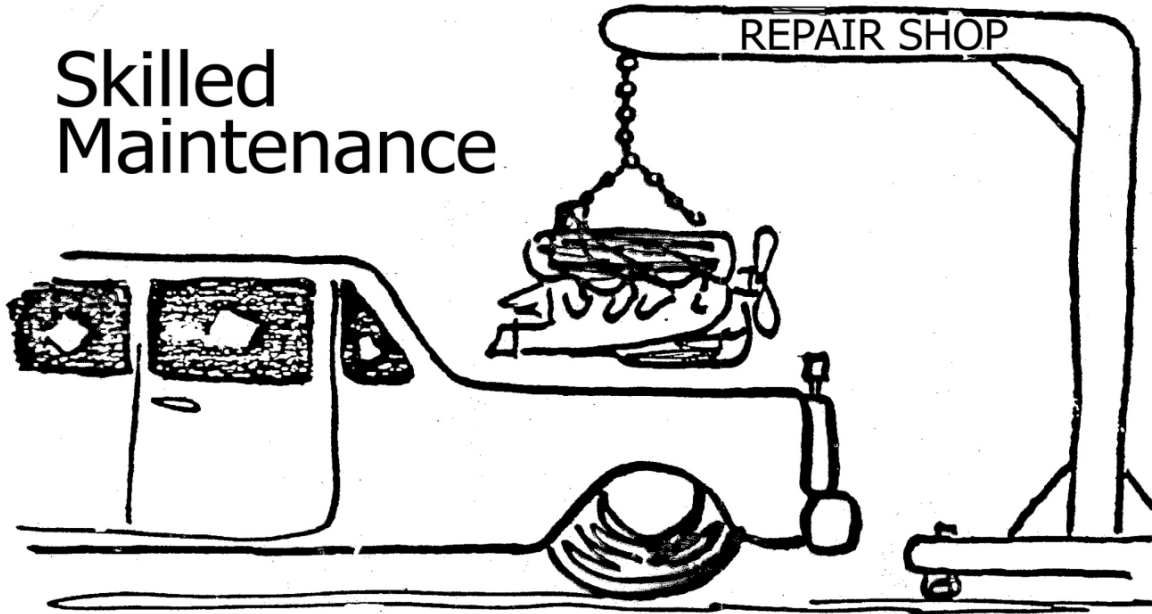
Abnormal? Unknown? Normal?



How would you know what the normal operating range is?

How would you know if there were problems developing?

Skilled
Maintenance



Autonomous Maintenance

Autonomous Maintenance Summary

Autonomous Maintenance is a partnership between equipment operators and maintenance personnel who share responsibility for the performance and health of the equipment.