Inspection Intervals for CO Warning Devices in Emergency Medical Services

How Often Should a CO Warning Device Be Checked in Emergency Medical and Rescue Services – Every 4 Weeks, Daily, or Not at All?

The practical answer: it depends on the type of organisation and local requirements.

Carbon monoxide is colourless, odourless and highly dangerous. Rescue personnel frequently enter dwellings, basements and garages as first responders - often long before carbon monoxide is considered. A body-worn CO warning device provides essential personal protection, but only if it functions correctly.

Recommended Inspection Intervals

- Volunteer organisations:

For volunteer organisations providing unpaid emergency medical or first-aid services, a 4-week inspection interval is commonly applied, provided the organisation uses gas warning or gas measuring equipment.

- Professional emergency medical services and fire brigades:

For professional emergency medical services and fire brigades (including volunteer fire services operating under professional standards), daily functional checks of CO warning devices - including 24-month disposable units - are recommended as best practice.

Typical recommended alarm thresholds used in many emergency services worldwide are:

20 ppm – attention / increased awareness

60 ppm – hazard

200 ppm – withdrawal / immediate evacuation

These values should always be confirmed against local regulations, organisational guidelines, and manufacturer instructions.

“Daily checks? Nobody Does That in Practice”

In reality, devices are often checked less frequently than recommended - sometimes not even every four weeks. Many devices are described as “maintenance-free for 24 months”. Maintenance-free does not mean test-free. Sensors can age, become contaminated, or be poisoned; these effects are only reliably detected with test gas.

Bump Test – Simple Display and Function Verification

A bump test (display and function test) takes only a few seconds: apply test gas, confirm that the alarm activates, and the test is complete.

Test Gas Options

- **Ready-to-use test spray (typically 12 bar):** convenient for small teams
- **Test-gas cylinders (34 or 58 litres) with pressure regulator:** more economical for larger fleets

Documentation

A simple written log is usually sufficient. Most modern devices also contain a permanent data logger that records every event, including tests, providing additional traceability.

Practical example from an emergency medical station

A station was equipped with innovative 24-month CO warning devices - the SST1 from WatchGas - including the free mobile app.

SST Dock

Insert the SST1 → activate NFC → close the lid → test complete. This is one of the simplest methods of performing a regular bump test.

Training

Structured expert training for key personnel (multipliers) and group training for end users ("Instructed Person – Emergency Services" for portable CO warning devices) were provided to ensure correct use, testing and response.

Additional Capabilities of SST Sensors

SST sensors offer high stability, very fast response times, low cross-sensitivity, and a measuring range of 0–2000 ppm.

False Alarm Inside a Patient-transport Vehicle – Root Cause

A false alarm occurred inside a closed patient-transport vehicle after routine cleaning.

The crew had cleaned the interior with approved disinfectants in accordance with hygiene protocols. The rescue bag containing the CO warning device remained inside the vehicle with no air exchange. After several hours the devices alarmed.

Measured values were approximately 44 ppm. With organisational alarm thresholds set at 30 ppm and 200 ppm, activation of the first alarm level was inevitable.

Controlled Verification

The incident was reproduced under laboratory conditions. Two CO warning devices from different manufacturers - the SST1 from WatchGas and a comparative device - were placed in a closed chamber that had been wiped with commercial disinfectants. No ventilation was allowed.

Both devices reacted and indicated significantly higher concentrations than those observed in the vehicle. The effect is therefore not limited to any single manufacturer; it is a handling issue.

Precautions During Disinfection and Cleaning

- Ensure adequate ventilation / air exchange
- Remove the CO warning device from the vehicle before disinfection
- Return the device only after the interior has been fully ventilated

Correct Wearing Position

The recommended wearing position is on the outer clothing within approximately 30 cm of the respiratory organs. A device carried inside a bag or rucksack will react later and in the wrong location.

Action In the Event Of a False Alarm

- Move the device into fresh air.
- Switch it off if possible and allow it to ventilate.
- Do not perform a zero adjustment immediately afterwards - the zero point may still be elevated and the adjustment can fail.
- Later return the device to service, perform any required adjustment, and resume normal use.

Establishing Compliant Routine Operation

The SST1 devices were configured to issue a daily self-test reminder. Every staff member can perform a bump test at a central location.

Recommended target: minimum every four weeks, with progression toward daily checks where operationally feasible. Devices that have not been tested for an extended period (e.g. five weeks) begin regular visual and audible reminders.

WatchGas SST RTR Web Reporting Software

Central WatchGas SST RTR Web Reporting Software provides supervisors with a complete overview of all CO warning devices, including:

- Assigned vehicle and radio call-sign
- Remaining operating life
- Recorded alarms
- Completed display and function tests

Conclusion

Whether daily or every four weeks is appropriate depends on the organisation, local regulations and operational risk. A CO warning device that is never functionally tested provides only a false sense of security. With appropriate test gas, the SST Dock, structured training, and RTR software support, regular bump testing becomes a straightforward routine.

Support

Advice, training and equipment solutions - including SST1 devices, SST Dock, the free WatchGas Device Link App and WatchGas SST RTR Web Reporting Software - are available for volunteer medical groups, fire brigades, and professional emergency medical services.

Disclaimer

This Application Note is intended for general guidance only. It does not replace applicable national or local regulations, organisational procedures, or the manufacturer's instructions. Always follow the current official requirements and the device manufacturer's recommendations.

Regards,
WatchGas Team