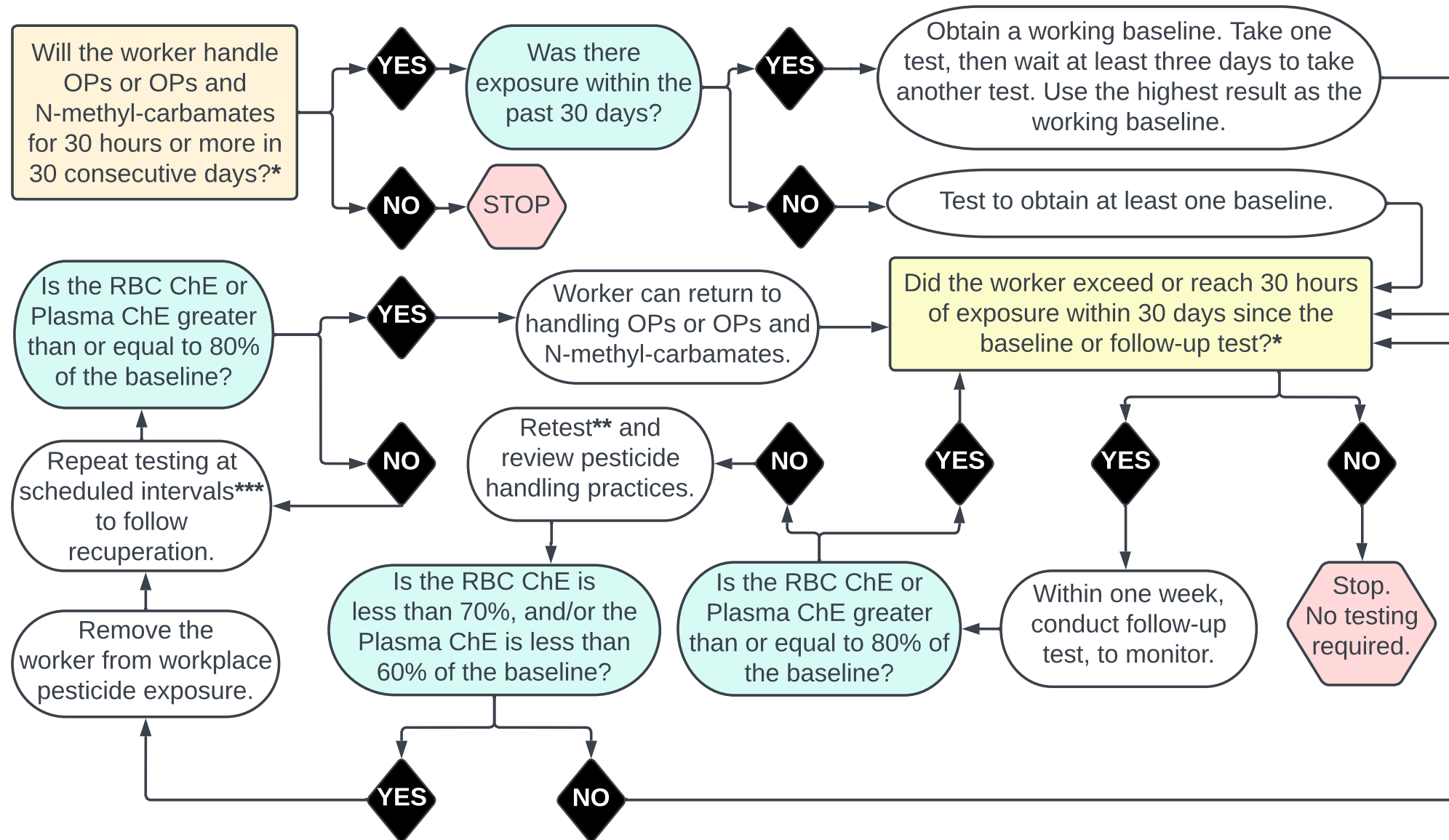


# Cholinesterase Testing Protocol Algorithm



\*This is the Washington (WA) state recommendation. California (CA) state recommends follow-up testing if worker reaches 6 days of exposure within a sliding 30-day schedule. At this time, WA and CA are the only states with formal cholinesterase monitoring programs with regard to pesticide exposure. Days of exposure are easier to track than hours of exposure.

\*\*Retesting is strongly recommended but not mandatory.

**Threshold exposure level:** When the worker exceeds or reaches 30 hours of exposure in a 30-day period.

**OPs:** Class I or Class II organophosphates.

**RBC ChE:** Acetylcholinesterase, also known as red blood cell cholinesterase.

**Plasma ChE:** Butyryl cholinesterase, also known as plasma cholinesterase.

## NOTES:

- Obtain baseline prior to pesticide work or after 30 days of worker being exposure free.
- When testing, it is recommended to get both RBC ChE and Plasma ChE. But if only performing one test, then do Plasma ChE.
- A second baseline is recommended for improved precision but not essential.
- N-methyl carbamates do inhibit cholinesterase but the cholinesterase reactivates quickly, making testing unreliable in predicating overexposure.

## \*\*\*Days to repeat test:

- For RBC ChE:  $(\% \text{ depression} - 20) / 0.83$   
= number of days to repeat test.
- For Plasma ChE:  $(\% \text{ depression} - 20) / 1.2$   
= number of days to repeat test.

*Testing weekly is also acceptable.*

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