# AdH Troubleshooting Decision Tree

**Does pre_adh have errors?**

YES →

NO →

**Is AdH running? (Calculating at least 1 timestep?)**

YES

NO

**Does it immediately start cutting timesteps?**

Regenerate hostart

Ensure ioh is included

YES

NO

Check bc file for errors
    Strings and series properly linked
    Strings must match 3d appropriate
    Check XY series number of rows to
        the specified number of rows
    Check boundary conditions
    Check material properties

Check hotstart for errors
    Must have ioh
    Must have icon for each constituent

Check 3dm for errors
    After renumbering elements, check
    that strings defined in bc match
    properly and regenerate hotstart

**Is it cutting too many timesteps later in the run?**

YES

NO

Your problem doesn't exist

Try running with a lower timestep

Ensure hotstart elevation matches NB OTW

If initial velocities are zero, consider ramping up velocity

Go to Step by Step problem solver
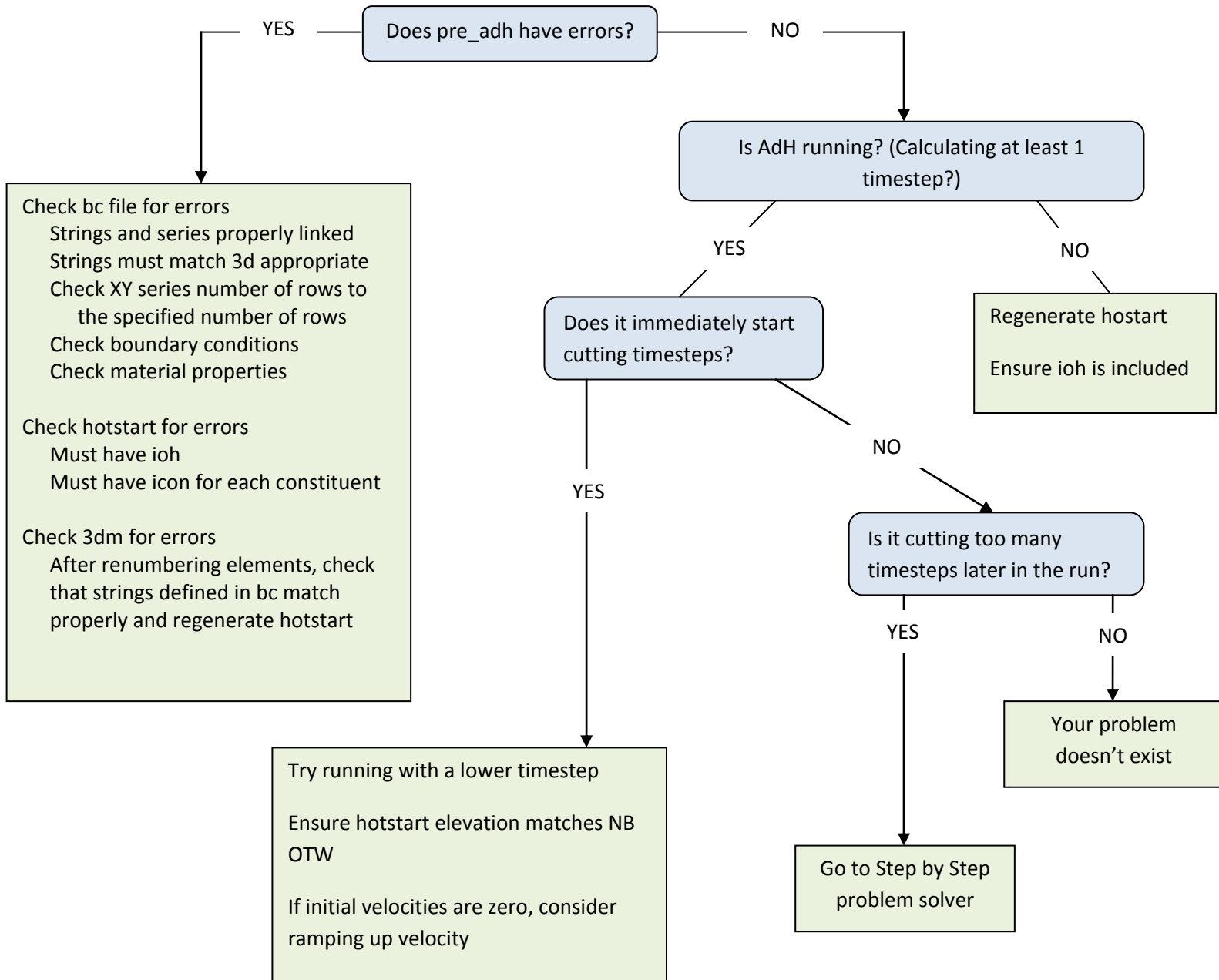
STEP 1) Note with nodes are problems (by evaluating which nodes continue to fail tolerance parameters in adh.out)
    TIP: grep "#" adh.out    (for UNIX systems)

STEP 2) Examine mesh elevations.
    Is there a steep element?
    Is it wetting and drying? (high velocities here can cause problems, try adjusting MP DTL)
    Is there flow passing through a triangular channel? Widen major flow paths to two elements wide.

STEP 3) Examine velocities
    Are the velocities abnormally high?
    Are the velocities non-uniform/choatic?
        Adjust MP EVS or MP EEV

STEP 4) Examine concentrations
    Are the concentrations non-uniform/choatic?
        Check bc for errors (NB TRN)
        Check hotstart for errors (improper specification of initial concentrations)

STEP 5) Run with adaption turned on.