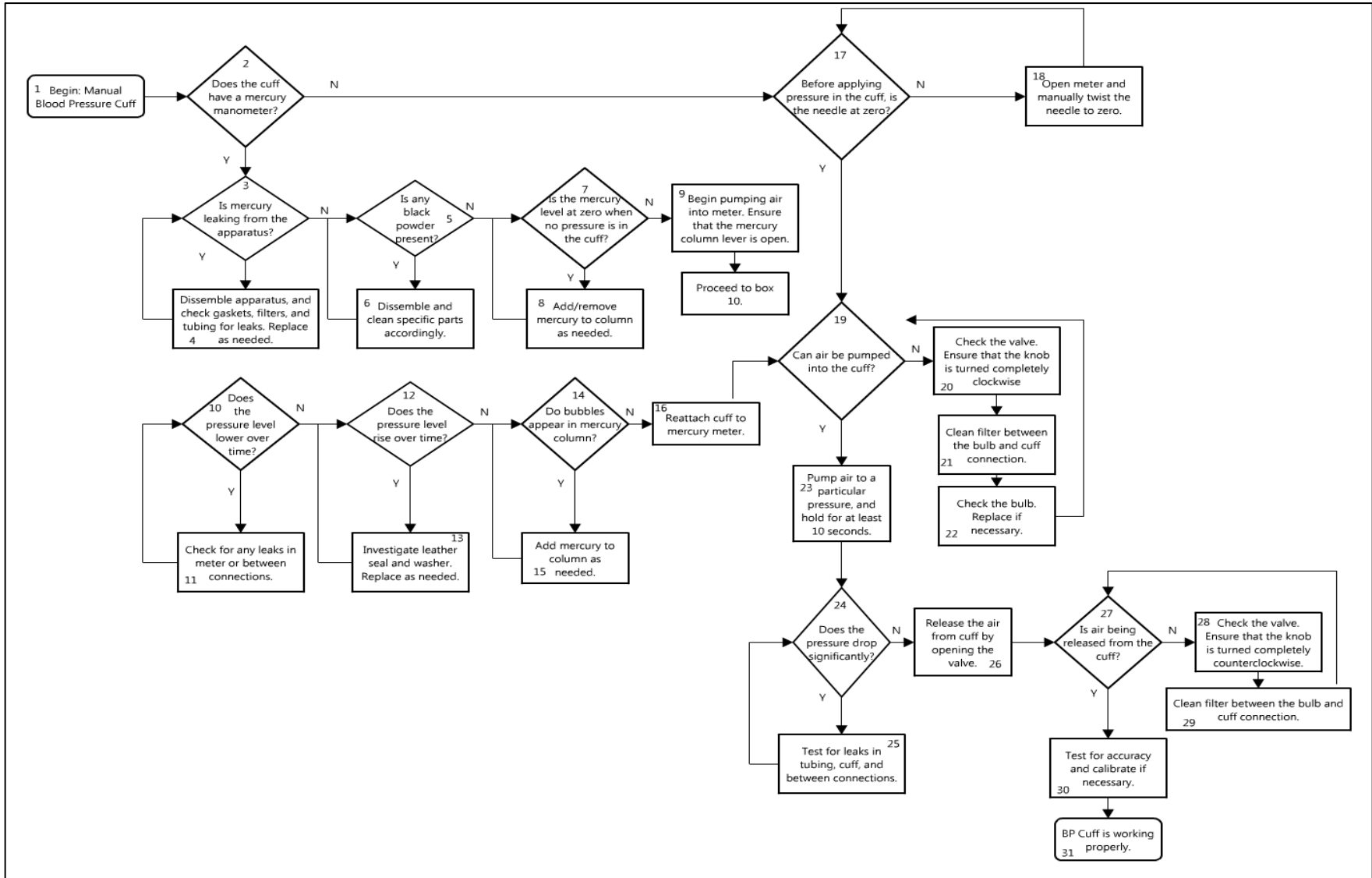


Blood Pressure Monitor (Manual) Flowchart:



Description

#	Text Box	Comments
1	Begin: Manual Blood Pressure Cuff	Testing and maintenance is advised when the manual cuff fails to give out a complete or accurate blood pressure.
2	Does the cuff have a mercury manometer?	There are two types of manual blood pressure cuffs, one with a mercury manometer and an aneroid sphygmomanometer with just a small pressure dial.
3	Is mercury leaking from the apparatus?	If there is any mercury escaping the reservoir, proceed with extreme caution and follow mercury-handling protocols . See BTA skills for Leaking and Blockages.
4	Disassemble apparatus and check gaskets, filters, and tubing for leaks. Replace as needed.	Disassemble the apparatus (follow protocol below). Assess each part for any leaks and cracks. Replace or repair faulty parts as necessary. See BTA skills on Plumbing and Mechanical.
5	Is any black powder present?	The black powder is oxidized mercury and needs to be removed.
6	Disassemble and clean specific parts accordingly.	<p>Disassemble the apparatus (follow protocol below)</p> <p>If oxide is in rise tube and mercury tank:</p> <ul style="list-style-type: none"> -Using a stiff wire, push a small piece of cotton or gauze through the rise tube several times -Gently tap mercury tank (with opening facing downwards) onto tray to make sure all mercury has been removed -Wash tube and tank in a detergent and water solution -Dry thoroughly -Clean mercury using protocol below

7	Is the mercury level at zero when no pressure is in the cuff?	Meter should be at zero when no pressure is applied.
8	Add/remove mercury to column as needed.	Follow mercury-handling protocol. Any added mercury can be taken from another existing meter that doesn't work correctly or isn't in use.
9	Begin pumping air into meter. Ensure that the mercury column lever is open.	If possible, disassemble tubing, and attach the bulb and its tubing to the meter so that the cuff is not involved in meter testing. Be sure that the mercury column lever is open, or else no mercury will come up the rise tube.
10	Does the pressure level lower over time?	The mercury level will fall if there are any cracks or leaks.
11	Check for any leaks in meter or between connections.	Use BTA skills on Leaking and Seals to assess for cracks or leaks.
12	Does the pressure level rise over time?	Leather seal and washer may be cracked/broken.
13	Investigate leather seal and washer. Replace as needed.	Use BTA skills to assess for cracks or leaks. Leather seal and washer will usually need to be replaced. See BTA skills on Leaking, Seals and Connections.
14	Do bubbles appear in mercury column?	Small air pockets will form if not enough mercury is in the tank.
15	Add mercury to column as needed.	Follow mercury-handling protocol. Any added mercury can be taken from another existing meter that doesn't work correctly or isn't in use.
16	Reattach cuff to mercury meter.	Reassemble cuff to meter if the apparatus was disassembled in step 9.

17	Before applying pressure in the cuff, is the needle at zero?	Needle in the dial should be at zero when no pressure is applied.
18	Open meter and manually twist the needle to zero.	Screw off dial cover and use a screwdriver to loosen or remove needle. Reassemble once needle is back at zero.
19	Can air be pumped into the cuff?	Try putting cuff around your arm or a bottle before pumping air. Is there difficulty in pushing air into the cuff? Does it deflate immediately?
20	Check the valve. Ensure that the knob is turned completely clockwise.	Valve must be turned completely clockwise to inflate the cuff.
21	Clean filter between the bulb, valve, and cuff connection.	Remove the valve from the bulb and cuff tubing. Use a screwdriver to scrape out any dirt in valve connection, or see BTA skills on Blockages Reassemble bulb, valve, and cuff tubing.
22	Check the bulb. Replace if necessary.	Is the bulb able to pump air? Are there any holes or leakage in the bulb? Repair with silicon if possible. Bulbs will typically need to be replaced. See BTA skills on Seals and Leaking.
23	Pump air to a particular pressure and hold for at least 10 seconds.	Pump air to a pressure of approximately 180 mmHg for a human arm.
24	Does the pressure drop significantly?	If the pressure drops more than 5 mmHg in 10 seconds, there is probably a leak.
25	Test for leaks in tubing and between connections.	Use BTA skills for cracks or leaks.
26	Release the air from cuff.	Turn knob completely counterclockwise.
27	Is air being released from the cuff?	You will hear air being released from the valve, and the cuff should deflate with no difficulty.

28	Check the valve. Ensure that the knob is turned completely counterclockwise.	Valve must be turned completely clockwise to deflate the cuff.
29	Clean filter between the bulb and cuff connection.	Remove the valve from the bulb and cuff tubing. Use a screwdriver to scrape out any dirt in valve connection, or see BTA skills on Blockages. Reassemble bulb, valve, and cuff tubing.
30	Test for accuracy and calibrate if necessary.	Use BTA skills on Calibration to calibrate sphygmometer.
31	BP cuff is working properly.	Return apparatus to appropriate clinical staff.