

ASSESSMENT & PREPARATION

Bilirubinometer

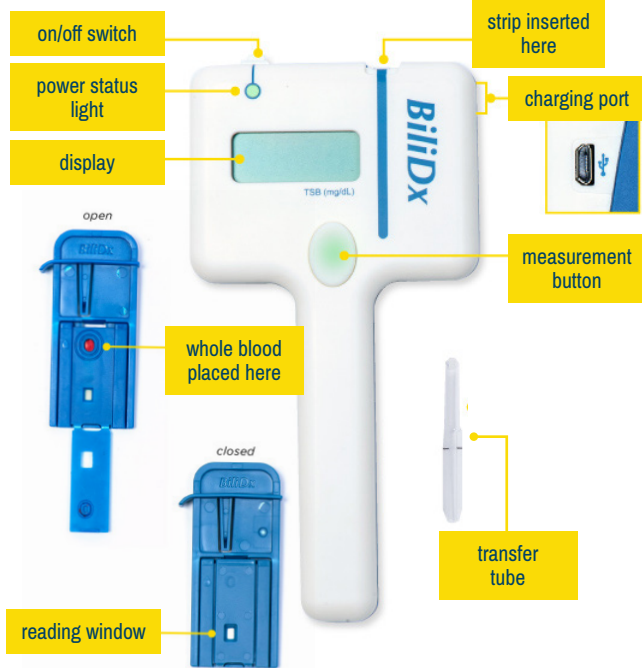
Bilirubinometers provide rapid measurement of total serum bilirubin to help diagnose and direct treatment of infants with jaundice.

USE FOR

- Screening, diagnosis and monitoring small and sick newborns with jaundice
- On-going management of jaundiced newborns receiving phototherapy

STANDARD OF CARE

- Serum bilirubin testing is accurate before, during and after completion of phototherapy treatment
- Compare the bilirubin result on the ward serum bilirubin charts, and depending on age and risk factors determine need for phototherapy, exchange transfusion or other medical interventions



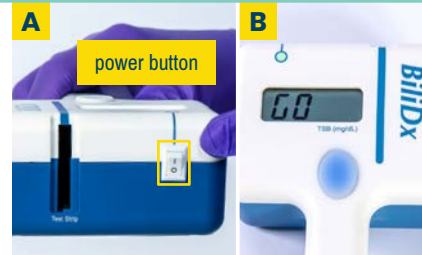
1 COLLECT ALL MATERIALS

- Bilirubinometer
- Lancets
- Test strip
- Transfer tube
- 70% Alcohol
- Gloves
- Cotton wool/gauze



2 PREPARE DEVICE

- A** Turn on the device by pressing the power button
- B** Device will show **GO** and the measurement button will turn blue when it is ready for testing

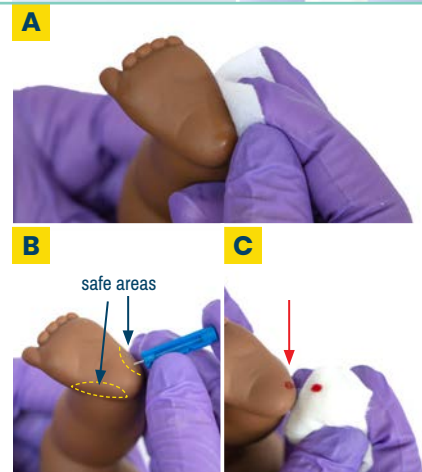


3 PREPARE PATIENT

Follow hand washing protocol and put on gloves

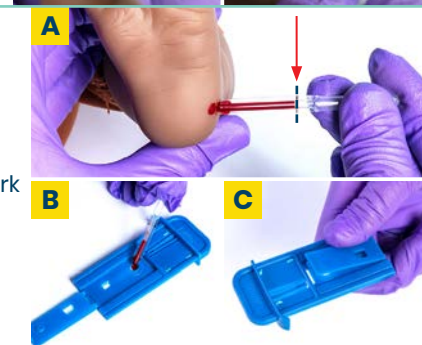
Manage patient's pain

- A** Disinfect skin on the outer and inner edge of the patient's heel using 70% alcohol
- B** When dry, prick foot on safe area as indicated
- C** Wipe away first drop of blood



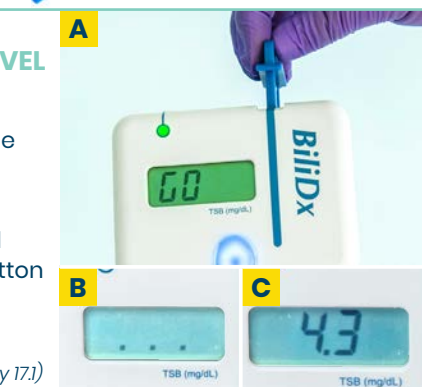
4 PREPARE TEST STRIP

- A** Hold the transfer tube horizontally without squeezing and collect the second drop of blood. Fill to the designated mark
- B** Squeeze blood from the transfer tube onto the test strip
- C** Close test strip until you hear a click



5 CHECK SERUM BILIRUBIN LEVEL CONCLUDE ASSESSMENT

- A** Wait 5 minutes then insert the prepared test strip with curved edge facing forward
- B** Start testing by pressing and releasing the measurement button
- C** Read and record results displayed in mg/dL
(To convert to mmol/L multiply result by 17.1)



COMPLICATIONS

- Bruising
- Bleeding
- Nerve or bone damage
- Pain
- Infection
- False readings

! When results from bilirubinometer device do not match clinical condition or indicate need for exchange transfusion, always verify result with repeat point-of-care testing and/or medical laboratory testing.

For accurate results the sample must be collected when the phototherapy light is turned off

DISINFECTION & INFECTION PREVENTION

- Clean hands and put on gloves before and after handling bilirubinometer materials that will be used on patients
- Always wipe the bilirubinometer with 70% alcohol between patients
- Dispose of test strip and transfer tube in clinical waste container
- Dispose of used lancet in sharps container
- i** Refer to the General Infection Prevention Module

REPAIR & MAINTENANCE

Bilirubinometer

Bilirubinometer, strips and transfer tubes should be **stored in a clean, dry and secure area**. Keep strips sealed until ready to use.

Care should be taken to ensure that bilirubinometers and accessories **remain in the ward** and are **accessible for use when required**.



⚙️ DAILY MAINTENANCE

Wipe the bilirubinometer with 70% alcohol using gauze or a cotton wool before first use and between patients.

Do not submerge **device** or drip alcohol onto where the test strip is inserted.

⚙️ PREVENTIVE MAINTENANCE

BiliDx will prompt the user to calibrate the device every 25 tests. If the user attempts to exceed 50 tests without performing calibration the device will show an error message and will then require calibration before further testing is possible.

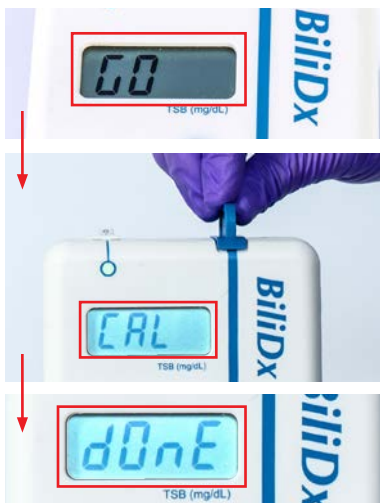
To **calibrate the bilirubinometer**

Take a new test strip, close it without blood

Turn on the device

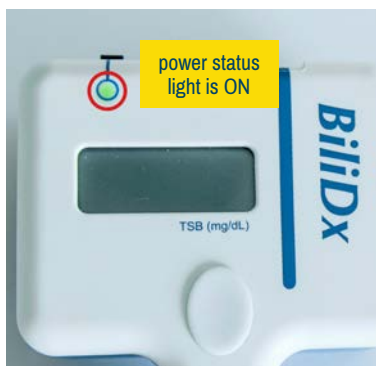
When it reads **GO**, press and hold the measurement button until it reads **CAL**

Insert the empty test strip into the device with the curved edge forward and wait for it to read **DONE**



If the bilirubinometer is **not turning on**

Make sure the device has been charged and the power status light is **ON**



If the bilirubinometer is providing results consistently **incompatible with patients condition**

Check that there are no blood sample factors such as:

- *failure to use 75 µl transfer tube*
- *very high patient haematocrit*
- *blood samples contaminated by substances on the skin*
- *direct exposure of a blood sample to phototherapy or sunlight*

Make sure you have waited **at least 2 minutes** and not longer than **60 minutes** after applying blood to the test strip to run the test

If results are still inconsistent **calibrate the device**

! CONTACT A TECHNICIAN OR MAINTENANCE DEPARTMENT IF DEVICE CONTINUES TO NOT WORK PROPERLY AFTER ADDRESSING THE COMMON ISSUES !