INTENDED USE

The Actalyke Activated Clotting Time (ACT) test is intended to be used in the performance of the Actalyke clotting time test, a whole blood coagulation assay commonly used to monitor heparin anticoagulation during various therapeutic and surgical procedures. ACT test tubes can be used in conjunction with the Actalyke instrument, the Actalyke mini, and the Actalyke MINI Systems to evaluate heparin anticoagulation (as a form of monitoring intravenous heparinization) and other anticoagulants, and to monitor heparin response during extracorporeal circulation.

SUMMARY

During extracorporeal circulation (ECC) procedures such as cardiopulmonary bypass (CPB), it is beneficial to monitor heparinization levels. The Activated Clotting Time (ACT) test, which was developed by Dr. Paul Hedges and colleagues in 1975, is based on the principle that the speed of clot appearance, or the time it takes for fibrin to form when blood is mixed with kaolin, is related to the amount of available thrombin.

The Actalyke Hemochron instrument was developed by the Becton Dickinson Company (Franklin Lakes, N.J.) and is unique in its ability to measure the time in seconds from the addition of activator to the formation of the first visible clot. The Hemochron instrument has been replaced by the Actalyke instrument, which offers improved performance and greater ease of use. The Actalyke instrument is available in three models: the Actalyke XL, Actalyke MINI, and Actalyke MAX-ACT tube system. The Actalyke activated clotting time (ACT) test consists of a series of steps that are performed in a specific order. The steps include:

1. **Sample Preparation**
   - Collect a 2-cc sample of blood from the patient, excluding anticoagulants.
   - Place the sample in a test tube and record the patient's name, date and time of collection.

2. **Sample Handling**
   - Avoid exposing the sample to light, as this can alter the test results.

3. **Addition of Activator**
   - Add the appropriate amount of activator to the test tube containing the blood sample. The amount of activator added depends on the model of the Actalyke instrument used.

4. **Oversaturation**
   - Oversaturate the activator with calcium chloride to ensure that all available clotting factors are activated. This step is important to ensure that the test results are accurate and reproducible.

5. **Temperature Control**
   - Control the temperature of the test tube to ensure that it remains at a constant temperature during the test.

6. **Clotting Time Measurement**
   - Measure the time it takes for the first visible clot to form. This time is recorded as the Activated Clotting Time (ACT) for the sample.

7. **Result Interpretation**
   - Interpret the ACT result in the context of the patient's clinical condition and the currently recommended normal range for ACT.

The Actalyke ACT test is a valuable tool for monitoring heparin anticoagulation during extracorporeal circulation and other therapeutic procedures. It is important to use the Actalyke ACT test in conjunction with other monitoring techniques to ensure the best possible outcome for the patient.