



LNCS Sensor Training

Sensor Guidelines - Application

- > When applying digit sensors to the adult and pediatric patient, the *middle finger* or *ring finger* of the *non-dominant hand* are the preferred monitoring sites.
- > When applying a digit sensor to the toe of an adult or pediatric patient, the *great toe* or *second toe* are the preferred monitoring sites.
- > Make sure that the sensor photodetector is applied to the fleshy part of the monitoring site, in order to shield the photodetector from ambient light.
- > When applying a sensor to the foot or hand of a neonate, the photodetector may be positioned on either the top or bottom of the extremity.
- > **The sensor should be applied to the patient prior to connection to the cable in order for the correct LED brightness to be determined.**

Sensor Guidelines - Inspection

- > The sensor site for *adhesive* sensors must be inspected at least every eight (8) hours and if the circulatory condition or skin integrity has changed, the sensor should be applied to a different site. **Disconnect the adhesive sensor from the cable prior to removal and re-apply the sensor to the site prior to reconnecting to the cable.**
- > During low perfusion, the sensor site needs to be assessed frequently for signs of tissue ischemia, which can lead to pressure necrosis.
- > The sensor site for *reusable* sensors must be repositioned at least every four (4) hours to ensure adequate circulation and skin integrity. **Disconnect any reusable sensor with exposed emitter and detector (TF-I, YI) from the cable prior to removal and re-apply the sensor to the site prior to reconnecting to the cable.**

Sensor Guidelines - Caution

Adhesive or Reusable Sensors

- > **Exercise caution with poorly perfused patients; skin erosion and / or pressure necrosis may occur**
- > **During low perfusion, the sensor site needs to be assessed frequently for signs of tissue ischemia, which can lead to pressure necrosis**
- > **Do not use tape to secure the sensor to the site; this can restrict blood flow and cause inaccurate readings. Use of additional tape can cause skin damage or damage the sensor**
- > **The sensor should be free of visible defects. Never use a damaged sensor or one with exposed electrical circuitry.**



Sensor Guidelines - Caution

TF-I Forehead Sensor

Exercise extreme caution with poorly perfused patients; skin erosion and / or pressure necrosis can be caused when the sensor is not frequently moved. Assess site at least every (1) hour with poorly perfused patients. If extended monitoring is required, use of a single patient adhesive digit sensor is recommended

TC-I Tip Clip Sensor, DC-I, DC-IP, DB-I Digit Sensors, Y-I Multi-Site Sensor

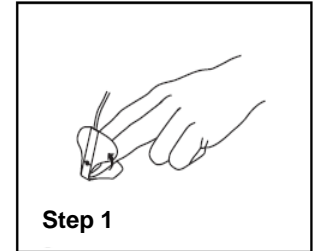
Exercise extreme caution with poorly perfused patients; skin erosion and pressure necrosis can be caused when the sensor is not frequently moved. Assess site at least every two (2) hours with poorly perfused patients.



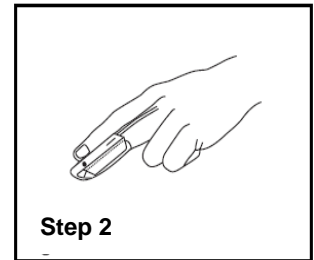
LNCS Aadx-3 Adult Sensor



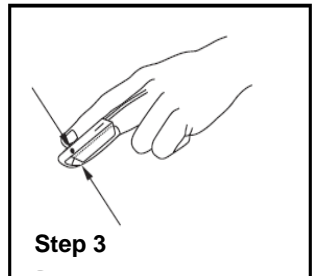
Finger or Toe Application
Patient Weighing > 30 kg



Step 1



Step 2



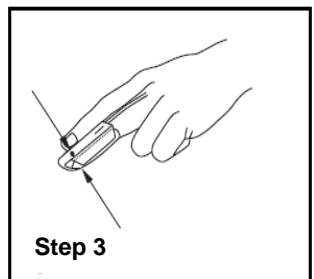
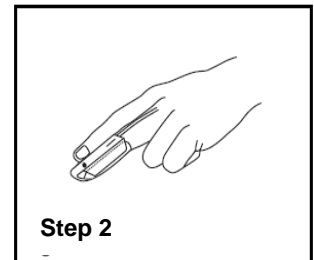
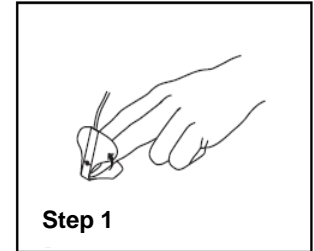
Step 3



LNCS Adtx Adult Sensor



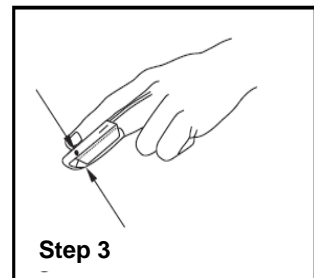
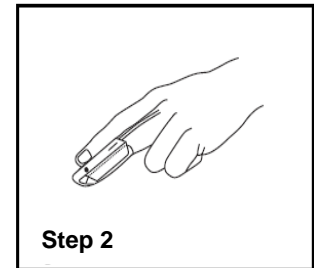
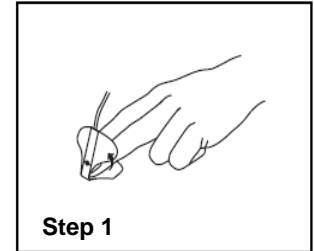
Finger or Toe Application
Patient Weighing > 30 kg



LNCS Pdtx-3 Pediatric Sensor



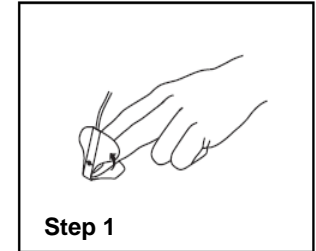
Finger or Toe Application
Patient Weighing 10 - 50 kg



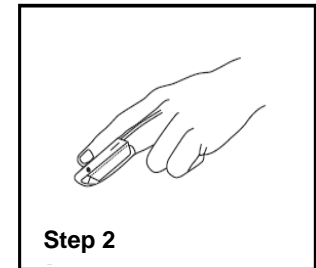
LNCS Pdtx Pediatric Sensor



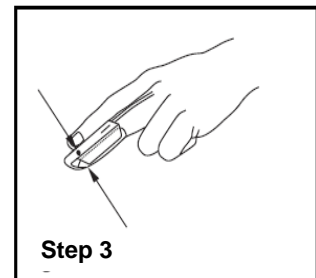
Finger or Toe Application
Patient Weighing 10 - 50 kg



Step 1



Step 2



Step 3



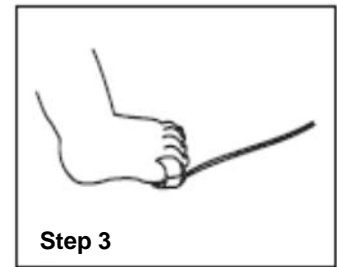
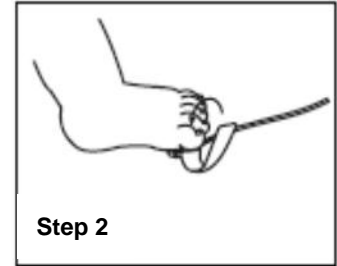
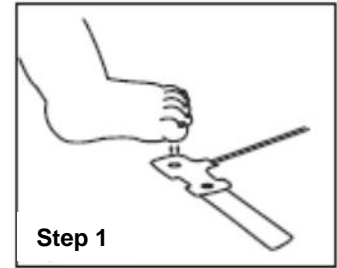
LNCS Inf-3 Infant Sensor



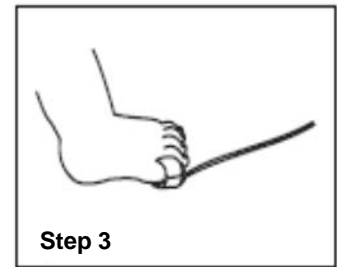
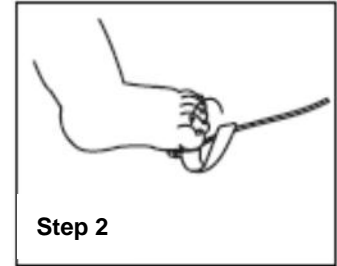
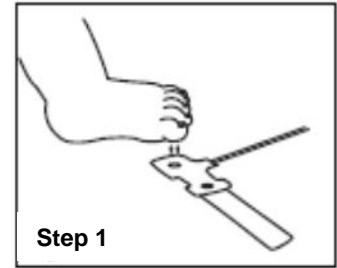
Finger or Toe Application

Patient Weighing 3 - 20 kg

Replacement tapes available



LNCS Inf Infant Sensor



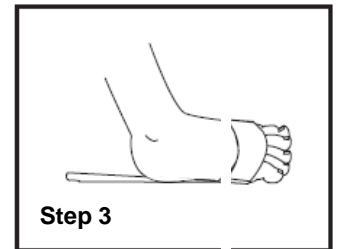
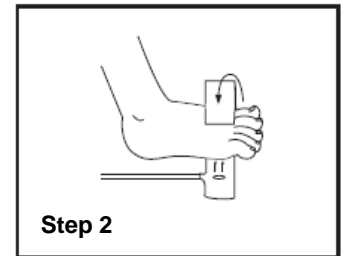
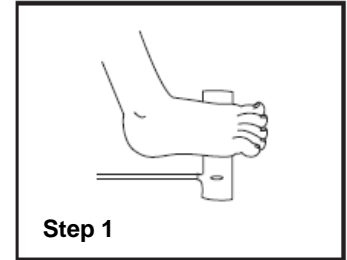
Finger or Toe Application

Patient Weighing 3 - 20 kg

Replacement tapes available



LNCS Neo-3 Neonatal / Adult Sensor



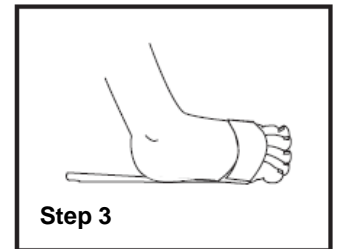
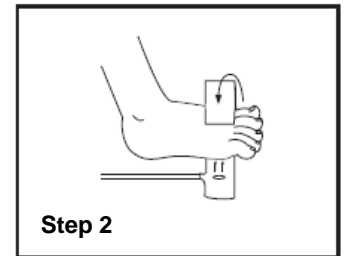
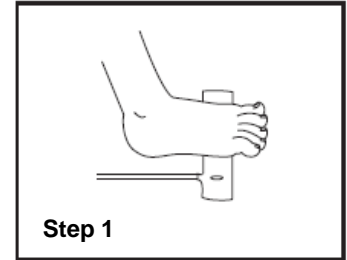
**Foot or Hand Application
Patient Weighing < 3 kg**

**Finger or Toe Application
Patient Weighing > 40 kg**

Replacement tapes available



LNCS Neo Neonatal / Adult Sensor



**Foot or Hand Application
Patient Weighing < 3 kg**

**Finger or Toe Application
Patient Weighing > 40 kg**

Replacement tapes available



LNCS Neo Sensor – Adult Application



Adult application



**Emitter and Detector
must be aligned for
optimum performance**

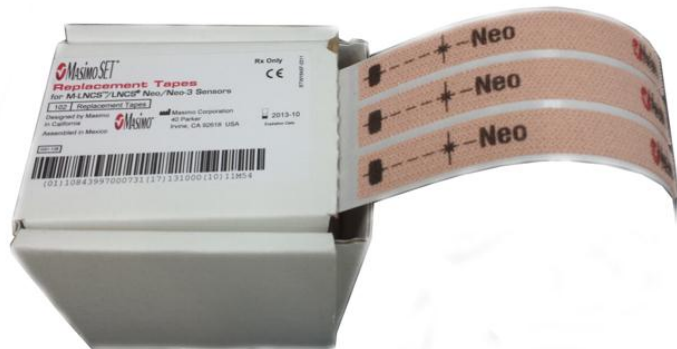
**Finger or Toe Application
Patient Weighing > 40 kg**

Replacement tapes available

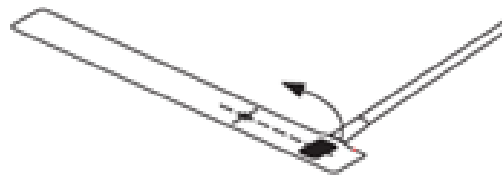
**Avoid stretching tape during
application. Sensor should not
be tight.**



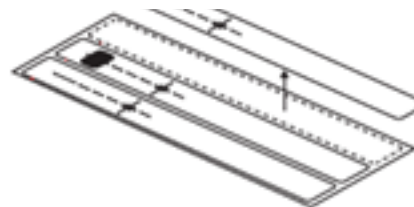
LNCS Neo and Inf Replacement Tapes



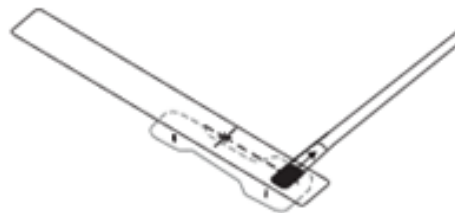
1. Remove the existing tape and discard



2. Remove the replacement tape from the release liner

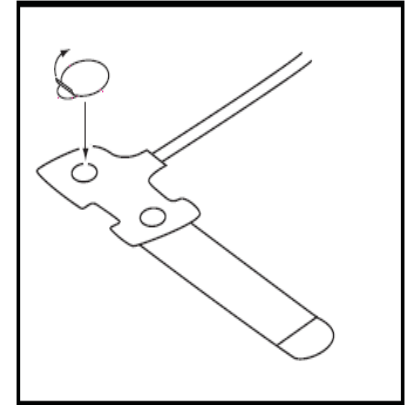
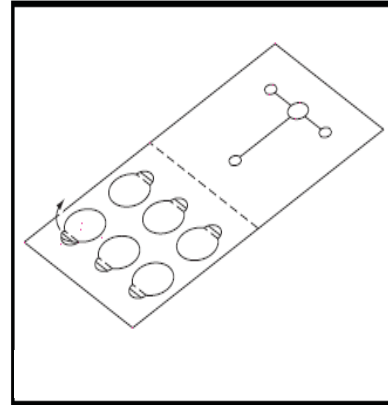


3. Position the replacement tape over the sensor, aligning the detector component with the sensor cable



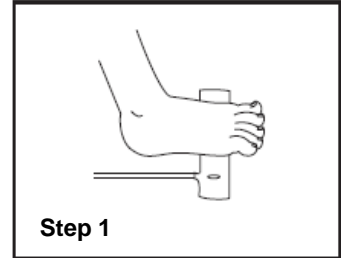
Sensor Reattachment

- > The adhesive tabs included with the LNCS Inf-L, Inf, Neo-L, Neo, NeoPT-L and NeoPT sensors are double-sided adhesive tabs used when the stickiness of the adhesive covering the optical components are no longer effective.

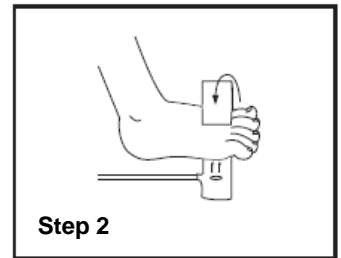


- > Place an adhesive tab over each window of the sensor with the white area outside the adhesive area, remove the protective paper that covers each tab and reapply the sensor to the same patient.
- > When the adhesive on the first set of tabs is no longer sticky, a second set may be applied. Up to 3 sets of adhesive tabs may be applied to each window, placing one on top of the other.
- > If the adhesive no longer adheres to the skin, use a new sensor.
- > When changing application sites, or reattaching sensor, first disconnect sensor from patient cable.

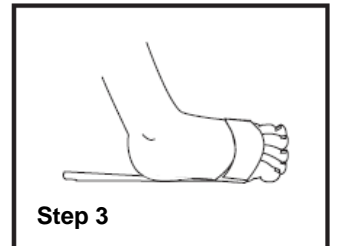
LNCS NeoPt-3 Neonatal Sensor



Step 1



Step 2



Step 3

Foot or Hand Application

Patient Weighing < 1 kg

Replacement wraps available



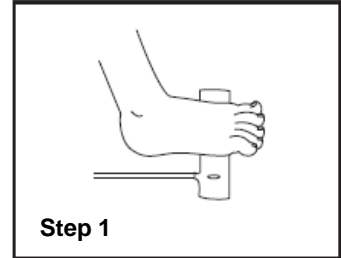
LNCS NeoPt Neonatal Sensor



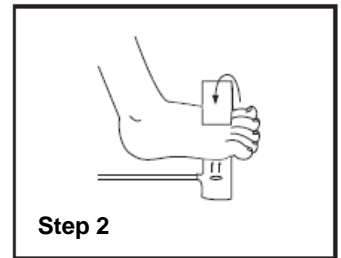
Foot or Hand Application

Patient Weighing <math>< 1 \text{ kg}</math>

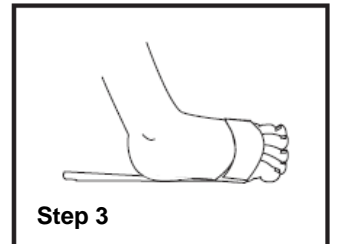
Replacement wraps available



Step 1



Step 2



Step 3



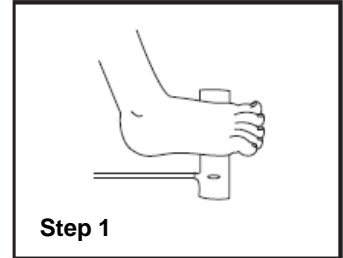
LNCS NeoPt-500 Neonatal Sensor



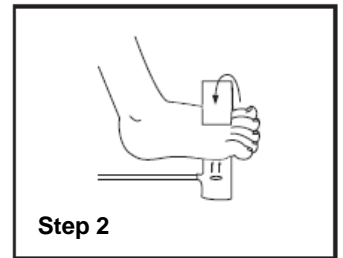
Foot or Hand Application

Patient Weighing <math>< 1 \text{ kg}</math>

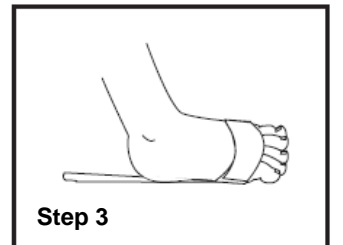
Replacement wraps available



Step 1



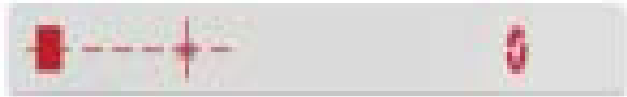
Step 2



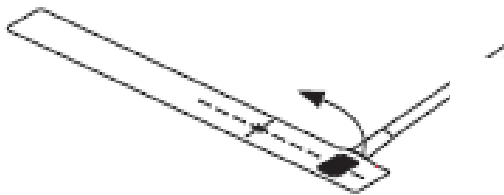
Step 3



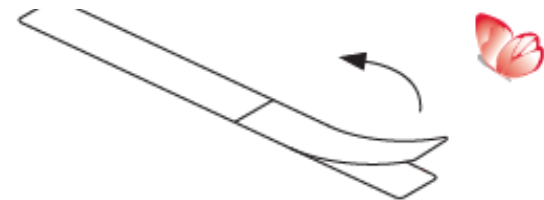
LNCS NeoPt / NeoPt-500 Replacement Wraps



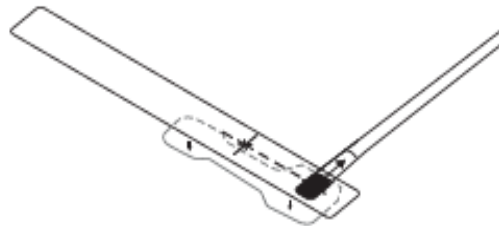
1. Remove the existing wrap and discard



2. Remove the backing from the replacement wrap



3. Position the replacement wrap over the sensor and press in place



LNCS DCI Digit Sensor



Non-disposable



Digit application
Patient weighing > 30 kg.

May be applied to great or 2nd toe.
Assure that site completely covers
detector window.



Note – The sensor should be removed and
repositioned to a different monitoring site
every four (4) hours.

Exercise extreme caution with poorly perfused patients; skin erosion and / or pressure necrosis may be caused when the sensor is not frequently moved. Assess site at least every two (2) hours with poorly perfused patients.

LNCS DCIP Digit Sensor



Non-disposable



Pediatric digit application
Patient weighing 10-50 kg.

May be applied to great or 2nd toe.
Assure that site completely covers
detector window.



Note – The sensor should be removed and repositioned to a different monitoring site every four (4) hours.

Exercise extreme caution with poorly perfused patients; skin erosion and / or pressure necrosis may be caused when the sensor is not frequently moved. Assess site at least every two (2) hours with poorly perfused patients.

LNCS DBI Reusable Sensor



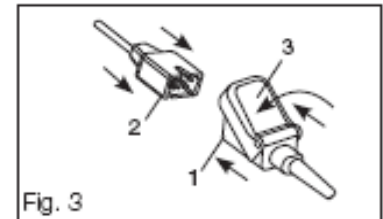
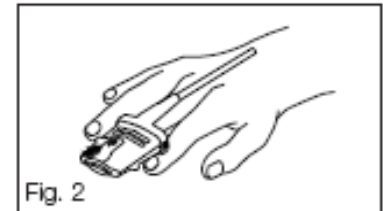
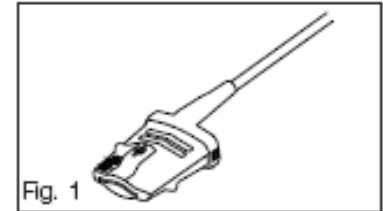
Adults (> 30 kg)
Ring or Middle finger of the non-dominant hand is the preferred site.
Assure that site completely covers detector window.

Note – The sensor site must be checked or changed at least every four (4) hours to ensure adequate circulation, skin integrity and correct optical alignment

Non-disposable



Digit application
Patient weighing > 30 kg.



Exercise extreme caution with poorly perfused patients; skin erosion and / or pressure necrosis can be caused when the sensor is not frequently moved. Assess site at least every two (2) hours with poorly perfused patients.

LNCS TC-1 Ear Sensor

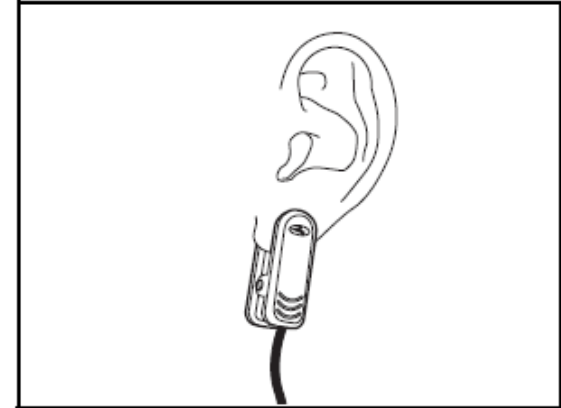


Non-disposable

Ear Application

Patient Weighing > 30 kg

May be applied to the ear lobe or the pinna.



Note – The sensor should be removed and repositioned to a different monitoring site at least every four (4) hours.

Use of the TC-1 Ear sensor is contraindicated for patients with pierced ears at the measuring site.

Exercise extreme caution with poorly perfused patients; skin erosion and / or pressure necrosis may be caused when the sensor is not frequently moved. Assess site frequently with poorly perfused patients.

LNCS YI Multi-Site Sensor



Non-disposable



Adults (> 30 kg) and Pediatrics (10-50 kg)

Ring or Middle finger of the non-dominant hand is the preferred monitoring site. Alternately, the other digits on the non-dominant hand or great toe may be used.

Infants (3-10 kg)

The preferred sites are the outer aspect of the foot, under the 5th toe, or outer aspect of the palm of the hand under the 5th finger. For infants with large or edematous feet, the great toe or thumb is recommended.

Infants (10-30 kg)

The preferred sites are the great toe or thumb. Alternatively, the 2nd toe or ring or middle finger can be used.

Neonates (1-3 kg)

The preferred site is the outer aspect of the foot. Alternately, across the palm of the hand can be used.



LNCS YI Multi-Site Sensor



Non-disposable



Note – The sensor should be removed and the site inspected at least every four (4) hours or sooner, and, if indicated by circulatory condition or skin integrity, reapplied to a different monitoring site.

The YI Multi-site sensor is not intended for placement on the ear.

Exercise extreme caution with poorly perfused patients; skin erosion and / or pressure necrosis can be caused when the sensor is not frequently moved. Assess site at least every two (2) hours with poorly perfused patients.

Applications of YI Wraps



**Clean Shield®
Multisite Wrap**



**Standard
Petite Wrap**



Standard Wrap



Foam Wrap



Body Weight		Clean Shield® Multisite Wrap	Standard Petite Wrap	Standard Wrap	Foam Wrap
	1 kg ~ 3 kg	■		■	■
	3 kg ~ 10 kg	■		■	■
	10 kg ~ 30 kg		■		■
	10 kg ~ 50 kg		■		■
	> 30 kg	■	■	■	■

LNCS TF-1 Forehead Sensor



Non-disposable



**Forehead Application Patient
Weighing > 30 kg**

Note - Site must be observed and the sensor repositioned at least every (2) hours.

***Adhesive pad and headband required**

Exercise extreme caution with poorly perfused patients; skin erosion and pressure necrosis can be caused when the sensor is not frequently moved. Assess site at least every one (1) hour with poorly perfused patients.



Cleaning Reusable Sensors

- > **Remove the sensor from the patient and disconnect from the patient cable.**
- > **Clean by wiping with 70% Isopropyl alcohol pad or mild detergent.**
- > **If low level disinfectant is required, use a 1:10 bleach/water solution.**
- > **Do not autoclave, pressure sterilize, or gas sterilize.**
- > **Do not soak or immerse in any liquid, with the exception of the TC-I, DB-I, Y-I, and TF-I which may be immersed to the cable connection in recommended solutions. (See Directions for Use)**
- > **Do not use petroleum based or acetone solutions, or other harsh solvents.**

