 <input type="checkbox"/> POLICY <input type="checkbox"/> PROCEDURE <input checked="" type="checkbox"/> POLICY & PROCEDURE <input type="checkbox"/> PLAN	PAGE 1 OF 7		REFERENCE			
	ORIGINAL ISSUE DATE 03/09	CURRENT EFFECT DATE 12/14	CATE/DIV D/I	SECT. # 30	SECT.CODE NG	POLICY /PROCEDURE/PLAN # 30090.99
	TITLE:  <b>SUBCUTANEOUS INSULIN PUMP THERAPY</b>					
	SUBJECT:  <b>Patient Care</b>					
KEYWORD(S): SIPT, Patient own med pump, med pump, pumps, patient's own, glucose, hypoglycemia, diabetics, HYPO, LOW BLOOD SUGAR, DIABETES, medical devices,						
<input type="checkbox"/> All Sharp HealthCare  <input type="checkbox"/> System Services    Surgery Centers: <input type="checkbox"/> SRS <input type="checkbox"/> CV-OPS <input type="checkbox"/> SCMG <input type="checkbox"/> GPSC <input type="checkbox"/> SHP <input type="checkbox"/> SMH-OPP		AFFECTED DEPARTMENTS:  All Patient Care Areas / Sub Acute – LTC Facilities		ACCREDITATION:		
Hospitals (check all that apply): <input checked="" type="checkbox"/> SCOR <input checked="" type="checkbox"/> SMH <input checked="" type="checkbox"/> SCVMC <input checked="" type="checkbox"/> SMBHWN <input checked="" type="checkbox"/> SGH <input checked="" type="checkbox"/> SMV <input type="checkbox"/> SMC		ORIGINATOR:  Diabetes Service Line		LEGAL REFERENCES:  INS Standards of Practice 2006		


**I. PURPOSE:**

- To provide guidelines for the use of the patient’s own Insulin Pump in the hospital setting.
- A. To support diabetes self-management by hospitalized patients who have been receiving Subcutaneous Insulin Pump Therapy (SIPT) in the ambulatory care setting.
  - B. To provide support of the patient in performing these diabetes self-management activities.
  - C. To define those circumstances when SIPT will be interrupted/ discontinued and an alternative treatment strategy applied.
  - D. To facilitate applied consistent safe care for patients treated with SIPT.

**II. DEFINITIONS:**

- A. **Continuous subcutaneous insulin infusion (CSII) or SIPT** is the use of a small battery operated pump to provide precise, efficient delivery of basal, bolus, correction or supplemental bolus to meet the patient’s insulin requirements
- B. **Basal Rate (background insulin)** is a continuous delivery of insulin in tiny amounts, programmed in units per hour, to keep blood glucose stable between meals and during the night
- C. **Carbohydrate or Prandial (Meal) bolus** is a dose that is programmed by the patient to provide the right amount of insulin coverage for the meal or snack
- D. **Correction bolus** is an extra bolus of insulin to correct for high blood glucose
- E. **Infusion Set** includes the hub, catheter, insertion set and tubing (tubing may or may not be already attached)
- F. **Insertion Set** (also known as the cannula) is the part of the infusion set inserted through the skin. It is inserted with a fine metal needle which is removed to leave a small teflon catheter under the skin.
- G. **Reservoir/Syringe/Cartridge** is a plastic container which holds the fast acting insulin inside the pump
- H. **Disconnect** –detaching the tubing from the insertion set so that the wearer is no longer connected to the pump
- I. **Remove Insertion Set** - peel off circular adhesive at the pump site so the small plastic catheter (cannula) is removed from the body
- J. **Pregnancy** pertains to the beginning of pregnancy through 6 weeks post partum
- K. **Pump caregiver** – person identified who has primary responsibility for SIPT and management during hospitalization; may be patient, family member or guardian.
- L. **Insulin On Board** – This setting looks at previously delivered insulin and determines, based on the amount of time programmed here, if any of that previous bolus is still actively affecting the BG level.
- M. **Temporary Rate** – Ability to temporarily raise or lower the basal rates for a specified amount of time.

**III. TEXT:**

 <input type="checkbox"/> POLICY <input type="checkbox"/> PROCEDURE <input checked="" type="checkbox"/> POLICY & PROCEDURE <input type="checkbox"/> PLAN	PAGE 2 OF 7		REFERENCE			
	ORIGINAL ISSUE DATE 03/09	CURRENT EFFECT DATE 12/14	CATE/DIV D/I	SECT. # 30	SECT.CODE NG	POLICY /PROCEDURE/PLAN # 30090.99
	TITLE:  <b>SUBCUTANEOUS INSULIN PUMP THERAPY</b>					
	SUBJECT:  <b>Patient Care</b>					
KEYWORD(S): SIPT, Patient own med pump, med pump, pumps, patient's own, glucose, hypoglycemia, diabetics, HYPO, LOW BLOOD SUGAR, DIABETES, medical devices,						

**A. Patient Selection:**

- a. **General:** Insulin pump therapy is only appropriate if the patient is oriented to person, place and time and is knowledgeable of basic program functions. If the patient will be placed under anesthesia, the pump is disconnected and alternate methods of insulin delivery must be instituted. The physician will order alternate method of insulin delivery.  
**Exception:** Surgical procedures less than 30 minutes involving minimal anesthesia and no x-ray during the procedure or in PACU with an expected rapid recovery to full cognitive function
- b. **Patients with diagnosis of diabetes ketoacidosis (DKA):** Patients using SIPT will be immediately transitioned to a continuous intravenous insulin infusion and SIPT will be discontinued when DKA is diagnosed. SIPT may resume once the attending physician and / or endocrinologist has determined that the DKA has resolved, and the patient is cognitively and physically capable of managing his / her diabetes using SIPT.
- c. **Ante partum Patient:** Patients will be candidates for SIPT if they are documented to be cognitively and physically capable by the managing physician, and agree to participate in the program and sign the SIPT Agreement. (Attachment B)
- d. **Intrapartum Patient:** Patients may be transitioned from SIPT to insulin drip therapy when spontaneous labor begins, or when preoperative assessment / care begins, or at the start of intravenous fluids prior to cesarean section, or when medical induction of labor is initiated at the discretion of the managing physician.
- e. **Postpartum Patient:** Patients, who were transitioned to insulin drip therapy and wish to transition back to SIPT, may do so if they are documented to be cognitively and physically capable by the managing physician or specialist if consult requested. The SIPT Agreement should once again be reviewed and signed indicating understanding of responsibilities.

**B. Physician Responsibilities:**

- a. All hospitalized patients receiving SIPT will be assessed by their managing physician as soon after admission as possible to verify that:
  1. SIPT is the preferred treatment at this time.
  2. The patient is cognitively and physically capable of managing the therapy on a 24 hour-a-day basis.
  3. The patient is competent in the use of the pump and can provide all supplies needed during the hospitalization.
  4. The insulin pump is functioning properly.
  5. Tools for conducting and documenting self-management are accessible to the patient.
- b. At SMH and SMBHWN, obtain an Endocrinologist consultation in Acute and Critical patient care areas.
- c. If, on initial assessment ANY criterion identified in III.B.a is **NOT** met, the physician will immediately initiate an alternative treatment for diabetes insulin management.
- d. If Criteria are met, the admitting physician will write orders for insulin pump therapy, including an order for the use of the pump, blood glucose monitoring guidelines, and a Diabetes Clinical Specialist consult.
- e. If the insulin pump must be discontinued due to a change in condition of the patient, or temporary disconnect for greater than 2 hours from the pump for procedures requiring ionizing radiation or magnetic fields, the physician will write orders for alternative insulin treatment.



- POLICY
- PROCEDURE
- POLICY & PROCEDURE
- PLAN

ORIGINAL ISSUE DATE 03/09	CURRENT EFFECT DATE 12/14	CATE/DIV D/I	SECT. # 30	SECT.CODE NG	POLICY /PROCEDURE/PLAN # 30090.99
---------------------------------	---------------------------------	-----------------	---------------	-----------------	---

**TITLE:**  
**SUBCUTANEOUS INSULIN PUMP THERAPY**

**SUBJECT:**  
**Patient Care**

**KEYWORD(S):** SIPT, Patient own med pump, med pump, pumps, patient's own, glucose, hypoglycemia, diabetics, HYPO, LOW BLOOD SUGAR, DIABETES, medical devices,

- f. Ongoing follow-up, analysis of blood glucose trends, adjustment of the insulin program, and assessment of the patient's diabetes self-management decisions is the responsibility of the managing physician and will be documented in the progress note. Follow-up will continue until the patient is discharged.

**C. Nursing Responsibilities:**

- a. Review the Pump Questionnaire with the patient / guardian to verify understanding (attachment A)
- b. Review the content of the Patient SIPT Agreement (attachment B) with the patient / guardian.
- c. Provide the patient with a copy of the Bedside Insulin Pump Flow Sheet daily (attachment C). Assist the patient in completing the sheet with each POC-BG. All forms must be placed into the chart and saved as a permanent part of the record
- d. Evaluate glycemic control and notify the physician of 2 consecutive blood glucose values > 240 mg/dL within 24hrs, any incidence of hypoglycemia, planned treatments that would require re-evaluation of insulin dosing, or changes in the patient's ability to perform self-management.
- e. If patient experiences a hypoglycemic reaction, request the patient place their pump in "suspend" mode. Treat patient per standardized hypoglycemia policy. When hypoglycemia is resolved inform patient to resume pump therapy by taking it out of suspend. If patient experiences severe hypoglycemic reactions with altered LOC or changes in vital signs remove the pump and contact physician.
- f. POC-BG will be performed by the nurse using the hospital glucometer at least AC, HS and at 2am or Q4hr if NPO to assure results are in the EMR.
- g. Document and report the existence of an insulin pump with any patient transfer and document POC-BG result immediately prior to transfer.

**D. Patient/Guardian Requirements:**

The patient / guardian will be informed of the need to provide all of the pump supplies needed during the hospitalization, and of those conditions under which the pump will be discontinued or temporarily disconnected. The guardian will be required to stay at the hospital 24hrs/day if they are the primary caregiver of the pump. Patient/guardian who cannot, or does not, meet this requirement is NOT a candidate for insulin pump therapy.

<b>IV. <u>PROCEDURE:</u></b>	<b><u>RESPONSIBILITY</u></b>
<b>A. <u>Initiating therapy:</u></b> Initiate Computerized Insulin Pump Order Set once all criteria in III.B.C and D are met. An Endocrinology consultation should be obtained.	Admitting Physician
<b>B. <u>Patient Insulin Pump Questionnaire (Attachment A)</u></b> <ul style="list-style-type: none"> <li>a. Review the Questionnaire with the patient / guardian to verify understanding.</li> <li>b. Obtain the signature of the patient/guardian upon completion of the review.</li> <li>c. Sign the form to identify the individual who reviewed the form with the patient or guardian.</li> <li>d. If patient/guardian unable to complete questionnaire, contact physician as alternate insulin therapy may be required.</li> <li>e. Place one copy of the form in the patient record</li> </ul>	RN



- POLICY
- PROCEDURE
- POLICY & PROCEDURE
- PLAN

ORIGINAL ISSUE DATE 03/09	CURRENT EFFECT DATE 12/14	CATE/DIV D/I	SECT. # 30	SECT.CODE NG	POLICY /PROCEDURE/PLAN # 30090.99
---------------------------------	---------------------------------	-----------------	---------------	-----------------	---

**TITLE:**  
**SUBCUTANEOUS INSULIN PUMP THERAPY**

**SUBJECT:**  
**Patient Care**

**KEYWORD(S):** SIPT, Patient own med pump, med pump, pumps, patient's own, glucose, hypoglycemia, diabetics, HYPO, LOW BLOOD SUGAR, DIABETES, medical devices,

f. Provide the patient/guardian with a second copy of the form.	
<p><b>C. SIPT Agreement:(attachment B)</b></p> <ul style="list-style-type: none"> <li>a. Review the content of the Patient SIPT Agreement (Attachment B) with the patient / guardian.</li> <li>b. Verify that accountabilities associated with subcutaneous pump self management are understood.</li> <li>c. Obtain the signature of the patient / guardian on the agreement following review indicating understanding of responsibilities.</li> <li>d. Sign the form indicating who reviewed the responsibilities with the patient or guardian.</li> <li>e. Place a copy of the form in the patient record.</li> <li>f. Provide the patient / guardian with a second copy of the form.</li> <li>g. Notify the physician in the event patient/guardian is unable or unwilling to meet the requirements of the agreement</li> <li>h. Provide the patient with a copy of the Bedside Insulin Pump Flow Sheet daily (Attachment C).</li> </ul>	RN          RN          RN
<p><b>D. Insulin Pump Flow Sheet (Attachment C)</b></p> <ul style="list-style-type: none"> <li>a. Document time and results of blood glucose assessments.</li> <li>b. Document time and dose of basal rates.</li> <li>c. Document time and dose of bolus insulin.</li> <li>d. Document time and carbohydrate content of meals or snacks consumed.</li> <li>e. Document other activities/circumstances that may have affected blood glucose control.</li> <li>f. Document time and date of site/syringe/tubing changes.</li> </ul>	Identified pump caregiver; Patient, family member or guardian.
<b>E.</b> Place the “Insulin Pump” sign in patient’s room.	RN
<b>F.</b> Review the Bedside Insulin Pump Flow Sheet and assist the patient in completing the sheet with each POC-BG. All forms must be placed into the chart and saved as a permanent part of the record	RN
<b>G.</b> Understand the conditions of treatment using SIPT and identify when the patient cannot meet those conditions due to change in patient condition, or initiation of radiation or ionizing therapies or studies.	RN
<p><b>H.</b> Notify Pharmacy in compliance with Policy #43088.99. Request pharmacy consults for Insulin vial to be examined and identified by the hospital pharmacist prior to being administered. If Patient using Humulin Regular (Highly Concentrated) U 500 insulin, vial <b>MUST</b> be stored in Pharmacy after verification until patient discharged home.</p> <p><b>NOTE:</b> Insulin infusing in the patient’s pump at the time of admission to hospital cannot be verified by hospital pharmacist. Patient’s declaration of insulin type used in the pump, and date infusion set was last changed will be honored per the completion of the patient Insulin Pump Questionnaire.</p>	RN, Pharmacy, Patient
<p><b>I. Disconnect for Procedures</b></p> <p>Have the patient disconnect from the pump immediately prior to procedures involving conscious sedation, anesthesia, diagnostic</p>	RN



- POLICY
- PROCEDURE
- POLICY & PROCEDURE
- PLAN

ORIGINAL ISSUE DATE 03/09	CURRENT EFFECT DATE 12/14	CATE/DIV D/I	SECT. # 30	SECT.CODE NG	POLICY /PROCEDURE/PLAN # 30090.99
---------------------------------	---------------------------------	-----------------	---------------	-----------------	---

**TITLE:**  
**SUBCUTANEOUS INSULIN PUMP THERAPY**

**SUBJECT:**  
**Patient Care**

**KEYWORD(S):** SIPT, Patient own med pump, med pump, pumps, patient's own, glucose, hypoglycemia, diabetics, HYPO, LOW BLOOD SUGAR, DIABETES, medical devices,

<p>radiation, or hyperbaric pressure and notify physician.</p> <ul style="list-style-type: none"> <li>a. Surgery</li> <li>b. X-Rays</li> <li>c. Interventional procedures (IR, Cath Lab)</li> <li>d. Computerized Tomography (CT)</li> <li>e. Endoscopy</li> <li>f. Magnetic Resonance Imaging (MRI).</li> <li>g. Computerized Tomography (CT)</li> <li>h. Hyperbaric Chamber Therapy</li> </ul> <p><b>NOTE:</b> <i>The insulin pump <b>does NOT</b> need to be disconnected during ultrasound procedures as long as Fluoroscopy is not being used.</i></p>	
<p><b>J. Call MD for New Insulin Orders</b> Contact the managing physician for alternative insulin orders when</p> <ul style="list-style-type: none"> <li>a. Pump will be off &gt;2hr for procedures a-h above</li> <li>b. Change in condition requires re-evaluation of patient's ability to perform self-management (e.g. altered LOC, spontaneous labor, sedation)</li> </ul>	RN
<p><b>K.</b> Use the following process in cases where the insulin pump has been temporarily disconnected during any procedure identified in IV.J.a.b.c</p> <ul style="list-style-type: none"> <li>a. Place the pump in the patients' bedside table for safe keeping or in a secured area on the unit.</li> <li>b. Reconnect the insulin pump and resume SIPT AS SOON AS POSSIBLE following the patients return to the nursing unit.</li> <li>c. If more than two hours have passed since the pump was disconnected, assess blood glucose and notify the physician</li> <li>d. Record events on the Bedside Insulin Pump Flow Sheet</li> </ul>	Patient / RN  RN  Patient  Patient / RN
<p><b>L.</b> Document that you have informed the patient of changes in the insulin dose that have been prescribed by the physician. Nurse to record in the patient care record (Cerner) at least Q Shift:</p> <ul style="list-style-type: none"> <li>a. nutritional intake (type and % eaten)</li> <li>b. hospital POC-BG blood glucose results</li> <li>c. Infusion site inspection</li> </ul>	RN
<p><b>M. Mandatory Discontinuation of SIPT:</b></p> <ul style="list-style-type: none"> <li>a. In the event that the patient should experience a Code Blue, the subcutaneous insulin pump should be carefully removed immediately and alternate insulin orders obtained once the patient is stabilized.</li> <li>b. Alternative orders will be written if the patient becomes cognitively or physically unable to perform diabetes self-management accountabilities or demonstrates lack of follow-through with self-management.</li> </ul>	RN           Physician



- POLICY
- PROCEDURE
- POLICY & PROCEDURE
- PLAN

ORIGINAL ISSUE DATE 03/09	CURRENT EFFECT DATE 12/14	CATE/DIV D/I	SECT. # 30	SECT.CODE NG	POLICY /PROCEDURE/PLAN # 30090.99
<b>TITLE:</b>  <b>SUBCUTANEOUS INSULIN PUMP THERAPY</b>					
<b>SUBJECT:</b>  <b>Patient Care</b>					
<b>KEYWORD(S):</b> SIPT, Patient own med pump, med pump, pumps, patient's own, glucose, hypoglycemia, diabetics, HYPO, LOW BLOOD SUGAR, DIABETES, medical devices,					

<b>N. Defective Medical Devices</b> In the event that there is an adverse event related to suspected pump malfunction, the nurse will notify the patient safety officer to sequester the pump in compliance with SHC P&P # 06010.99, Defective Medical Devices. The nurse will also contact the physician to obtain alternate orders for insulin management during intervals of time when pump therapy is discontinued.	RN, Pt. Safety Officer, Physician
<b>O.</b> The nurse will assume responsibility for all aspects of blood glucose monitoring and insulin administration in the event that SIPT is discontinued	RN
<b>P.</b> SIPT may be resumed at the discretion of the physician if the patient's condition improves to the point where he/she again meets criteria for safe self-management.	Managing physician
<b>Q.</b> If insulin pump therapy is resumed all responsibilities and procedures listed here are again in force.	RN

**V. REFERENCES:**

- (L) A. Cook et al. (2005) Insulin therapy in hospital setting. The Diabetes EDUCATOR, (6), pp
- (R) B. The Joint Commission. Comprehensive Accreditation Manual for Hospitals: the Official Handbook. Oakbrook Terrace, Ill: Joint Commission Resources.
- (R) C. FDA Preliminary Public Health Notification: Possible Malfunction of Electronic Medical Devices Caused by Computed Tomography (CT) Scanning

**VI. CROSS REFERENCES:**

- A. SHC P&P #43088.99, Patient's Own Medications: Usage and Storage
- B. SHC P&P #39111.99, Self Administration of Medications by Residents – SUB/LTC
- C. SHC P&P #43036.99, Medications; patient Self Administration Of – Bedside Storage
- D. SHC P&P # 06010.99, Defective Medical Devices

**VII. ATTACHMENTS: (Click on attachment name below to access)**

- A. [Patient Insulin Pump Questionnaire – Attachment A \(Form #2908, English\)](#)  
– [Attachment A \(Form #2908-SP, Spanish\)](#)
- B. Patient Insulin Pump Therapy Agreement – [Attachment B \(Form # 2912, English\)](#)  
– [Attachment B \(Form #2909-SP, Spanish\)](#)
- C. [Bedside Insulin Pump Flow Sheet – Attachment C \(Form # 2910\)](#)
- D. [Nursing Flow Diagram – Attachment D](#)

**VIII. APPROVALS:**

	SMH/ SMMC	SMBHWN	SGH	SCVMC	SCOR
Pharmacy & Therapeutics <b>OR</b>	07/01/08	03/09	07/2008	08/18/08	11/24/08



- POLICY
- PROCEDURE
- POLICY & PROCEDURE
- PLAN

ORIGINAL ISSUE DATE 03/09	CURRENT EFFECT DATE 12/14	CATE/DIV D/I	SECT. # 30	SECT.CODE NG	POLICY /PROCEDURE/PLAN # 30090.99
---------------------------------	---------------------------------	-----------------	---------------	-----------------	---

**TITLE:**  
**SUBCUTANEOUS INSULIN PUMP THERAPY**

**SUBJECT:**  
**Patient Care**

**KEYWORD(S):** SIPT, Patient own med pump, med pump, pumps, patient's own, glucose, hypoglycemia, diabetics, HYPO, LOW BLOOD SUGAR, DIABETES, medical devices,

	SMH/ SMMC	SMBHWN	SGH	SCVMC	SCOR
Treatment & Surveillance					
Diabetes Advisory Committee	10/29/08	10/29/08	10/29/08	10/29/08	10/29/08
Medical Executive Committee	1/13/09	11/06/2008	11/11/08	02/03/09	01/16/09
OB/GYN Medical Supervisory Committee	N/A	10/02/08	07/14/08	11/06/08	N/A

- B. Nursing Policy & Procedure Committee – 11/08; 01/12
- C. Policy & Procedure Steering Committee - 10/08
- D. SMV-Chief Nursing Officer – 10/09
- E. Diabetes Service Line, System Director – 10/11; 01/12; 01/13-minor edits, no date change.

**IX. REPLACES:** None

**X. CHANGES MADE WITH NO CHANGE TO CURRENT EFFECTIVE DATE:**

- A. 9/1/15-edit III. B. b. from “If possible obtain an Endocrinologist consultation ” to read “Obtain an Endocrinologist consultation as soon as possible in Acute and Critical patient care areas”, per Originator.
- B. 12/1/15--edit III. B. b. from “Obtain an Endocrinologist consultation ” to read “At SMH and SMBHWN, obtain an Endocrinologist consultation in Acute and Critical patient care areas”, per Originator.

**XI. HISTORY:** System #30090.99; originally dtd 03/09  
Reviewed/Revised: 10/11; 01/12; 12/14