**********
* **PROCEDURE** *
**********

HACKETTSTOWN REGIONAL MEDICAL CENTER

**PACU/SDS**
(Scope)

**TITLE: ELECTIVE CARDIOVERSION**

---

**PURPOSE:** To outline the process and nursing methodology for the patient undergoing an elective cardioversion.

**SUPPORTIVE DATA:**

- Synchronized cardioversion is recommended for termination of unstable paroxysmal supraventricular tachycardia, atrial fibrillation, atrial flutter and unstable ventricular tachycardia with a pulse.
- It may be used to convert stable atrial rhythms into normal sinus rhythm; if antiarrhythmic medications are unsuccessful.
- When cardioverting Atrial fibrillation, anticoagulation is considered prior to the patient coming in for the procedure to decrease risk of thromboemboli. Those patients with a short new onset, anticoagulation may not be needed. Post cardioversion, anticoagulation therapy may be necessary. Those patients with long-term atrial fibrillation consider a transesophageal echocardiogram prior to cardioversion to decrease risk of thromboemboli.
- Cardioversion is the delivery of electric current, which depolarizes the myocardium in attempt to restore the heart to a normal conduction system. When synchronized the electric current will be delivered outside the heart's vulnerable period, which is associated with the T wave.
- Planned cardioversion can be done with physicians' orders.
- Only RNs with current ACLS can assist.
- The physician must be present during procedure.
- Respiratory Therapy must be present during the elective cardioversion. If procedure becomes emergent, notify respiratory and continue with procedure.
- The physician may request Anesthesia to be present for sedation and follow up. If anesthesia is present then respiratory therapist presence is optional. Respiratory Therapy is also optional in the Emergency Department. The Emergency Department physician will be responsible for emergency airway management during a cardioversion that takes place in that department.
- When time permits, patients should be given sedation to minimize discomfort. Elective cardioversion patients will be evaluated for administration of sedation.

**EQUIPMENT:**

1. Crash cart with defibrillator/monitor and transcutaneous pacemaker.
2. Gel pads or hands free defibrillator/pacer pads
3. Cardiac board under patient if ordered by MD.
4. Pulse oximetry.
5. $0_2$ delivery system, oral airway and ambu.
6. Required sedative medication with patent, running IV Normal Saline line.
7 Airway equipment including suction set up
8 All emergency drugs in crash code on standby
9 Reversal agents at bedside if needed

CONTENT:

| | PROCEDURE | KEY POINTS |
|---|---|---|
| 1. | The physician will explain the procedure and obtain consent. | Give emotional support to patient throughout procedure. |
| 2. | Obtain labs results for electrolytes, digoxin level, and PT/PTT if applicable. | Electrolyte imbalances and digitalis toxicity can contribute to electrical instability and therefore can potentate the chance of ventricular arrhythmia. |
| 3. | 12 lead ECG Pre procedure | |
| 4. | Attach the patient to the monitor/defibrillator and assess rhythm. | |
| 5. | Assure that the patient remains in an atrial fib/flutter, or SVT. Activate synchronization mode. Assess accuracy. | In the synchronized mode the R wave must be sensed by the defibrillator in order to deliver the electric current outside the heart's vulnerable period. (T wave) |
| 6. | Obtain baseline vital signs including the pulse oximetry to monitor $O_2$saturation. Obtain baseline respiratory and cardiac assessment, include level of consciousness. | Monitor and record vital signs and $O_2$ saturation per ModerateSedation protocol. |
| 7. | With Respiratory Therapy present, the physician may administer sedative. If the anesthesiologist is present he/she may administer sedative. | For moderate sedation, follow the protocol. |
| 8. | When the patient is adequately sedated, turn the defibrillator on and in sync. mode, apply saline or gel pads/hand free pads to chest (apex and sternum.) If using hand free pads ask physician if he prefers anterior/posterior placement. Paddle placement for patients with an AICD is the same as standard paddle placement. Do not place over device. | NOTE: Remove any NTG patch . Other medication patches should be relocated from the anterior chest wall. Paddles should not be placed over electrodes, wires, tapes, bandages or perm. pacer<br>* Have AICD checked after cardioversion. If patient has permanent pacer, have that checked afterwards also. |
| 9. | Charge the defibrillator according to the physician's order in sync mode. | |
| 10. | Yell "Clear." Take a quick look around the bed and recheck monitor to identify that patient is still in the same rhythm, then discharge defibrillator by pressing and **holding** the shock button until discharge occurs. | Yelling, "Clear" alerts other personnel to remove themselves from contact with the patient and the bed. |

11. Shut off and remove $O_2$ source during actual cardioverison.

    Arcing of electric current in the presence of oxygen could precipitate an explosion and subsequent fire hazard.

12. Assess breathing pattern, pulse and rhythm. Bag the patient with 100% if necessary.

13. If unsuccessful, repeat steps 6-8

14. If successful, assess vital signs, LOC, rhythm and patient comfort level.

15. After successful cardioversion, continue to monitor respiratory and cardiovascular status until fully awake.

    Per moderate sedation protocol.

16. Obtain post procedure 12 lead EKG.

17. Monitor for any rhythm changes, changes in LOC. Evaluate for any skin changes to areas where paddles or pads were used. Report findings to physician.

18. Restock and clean the crash cart/defibrillator per protocol.

DOCUMENTATION:

19. Document pre- and post- cardioversion rhythms, energy used for conversion or attempted conversion, assessment and vital signs on moderate sedation flowsheet. As well as patient toleration.

20. Physician must chart in progress notes, brief assessment prior to moderate sedation and follow Moderate Sedation Policy.

SDS/PACU SPECIFIC:

1. Cardiologist's office will notify OR scheduler of date and time for cardioversion.

2. OR Scheduler will notify both SDS and PACU of procedure as well as of patient information.

3. The patient's name will appear on OR schedule for a cardioversion. He/she will follow usual admission process for a SDS procedure.

4. Upon admission to SDS, an EKG and all pertinent labs will be drawn STAT. An IV will be started and the Cardiologist as well as PACU will be notified that the patient is ready for

procedure.

5. The patient will be brought to PACU and the Respiratory therapist will be notified that the patient has arrived.

6. Cardioversion will proceed as outlined in above Content. Starting at #4.

7. Upon completion of cardioversion, the patient will remain at least 1 hour in PACU or longer if condition dictates.

8. Patient will return to SDS for continuous EKG monitoring and for discharge.

9. Occasionally, a patient may need to be admitted. The usual hospital admission process will be followed.

Reference: AACN Procedure Manual, 2001. Saunders. Page 211-217
Reviewed by: Critical Care UBC 3/04, 9/07