Hospital Care after a Traumatic Brain Injury

As soon as a person with a traumatic brain injury is brought to the hospital, his or her condition is checked by the health care team.

- Vital signs are taken. This includes temperature, blood pressure and heart rate (pulse).
- Breathing rate is checked. A pulse oximeter may be used to check the amount of oxygen in the body. It may clip to a finger, earlobe or toe.
- A neurological exam is done. This includes checking eye pupil size and reaction to light, alertness, reflexes, hearing and the person’s ability to respond to questions.
- Tests such as x-ray, computerized tomography (CT) scan and magnetic resonance imaging (MRI) may be done to:
  - Look for fractures or breaks in the skull
  - Look for brain tissue damage or bleeding
  - Check brain function
  - Determine a treatment plan

Based on test results and exams, the patient will be placed in an intensive care unit (ICU), a progressive care unit (PCU), or a medical/surgical unit. At each stage of recovery, the patient will be placed in the best location for his or her treatment needs.
Intensive Care Unit (ICU)

ICU care may last a few hours to weeks. The goal of treatment during this time is to support the body’s systems. The patient is watched closely and treated by a variety of health care specialists. Medical equipment used in the ICU may include:

- **Heart monitor and EKG monitor:** This monitor shows the electrical activity of the heart. There are pads with wires attached to the chest that connect to the machine.

- **Ventilator:** A machine that helps the patient to breathe. It is also called a respirator. A tube is placed in the patient’s mouth or throat to support body function.

- **EEG:** This machine checks brain activity. There are wires attached to the head that connect to the machine.

- **Intracranial pressure (ICP) monitor:** This is an internal monitor that is placed into the brain. It measures pressure inside the brain. Pressure will go up and down depending on the patient’s condition and degree of injury.
  - **Licox monitor:** This is an internal monitor that measures oxygen in a specific part of the brain and also reports intracranial temperature.
  - **Jugular bulb:** This is a tube placed into the jugular vein and looks like an intravenous line. The bulb measures oxygen levels between the brain and the body and tells the health care team how much oxygen the brain receives.

- **Intravenous lines (IVs):** These tubes give medicines and fluids to the patient.

- **Nasogastric (NG) tube:** This tube goes into the nose or mouth and delivers nutrition and medicines to the stomach. It may also be used to empty the contents of the stomach to prevent nausea.

- **Arterial lines:** This tube measure blood pressure and can be used for blood draws.

- **Foley catheter:** This tube removes urine from the bladder to a drain bag. Nurses monitor the amount of urine and empty the drain bag as needed.
• **Sequential compression device (SCD):** This device is placed on each leg. It inflates and deflates to help circulate the blood in the legs to help prevent blood clots.

Rehabilitation may start in the ICU to protect joints and muscles from the effects of bedrest. When the patient is well enough, he or she will be transferred to a progressive care unit or a medical/surgical unit in the hospital.

**Transferring Out of the ICU**

When the patient is ready to move out of the ICU, it is a good sign that he or she is getting better medically. The patient will be moved to a progressive care or medical/surgical unit for several days or a few weeks until he or she is strong enough to leave the hospital and move to the next step of recovery. A team of specialists will create a treatment plan with the goal of the patient leaving the hospital.

Family and friends may find it easier to be an active part of the health care team during this stage. Talk with health care team members and ask questions. We encourage you to find balance between your time in the hospital and demands of work and home life during this stage of recovery.

**Leaving the Hospital**

Leaving the hospital, or discharge, is exciting and sometimes scary. You may not think your loved one is ready. **Leaving the hospital does not mean treatment is over.** It means the patient is strong enough for further care outside the hospital.

The next step of recovery depends on the care needed by the patient.

- If the patient is able to go home from the hospital and needs **outpatient or in home therapies or nursing care**, a referral will be given. A report will be given to agencies providing these services. The family will be given information about community agencies for support.

- If the patient still has nursing care needs but can take part in some of their rehab treatment, they may be sent to a **sub-acute rehab facility**. The goal is to develop skills for daily living such as how to dress, eat, walk or speak. Programs may last a few weeks to several months.
• If the patient is able to take an active role in at least 3 hours of therapy each day, he or she may be sent to an inpatient rehabilitation hospital. Dodd Hall Rehabilitation Hospital at OSU is this type of hospital. Stays are often several weeks and therapy may build to 6 or more hours each day.

• If the patient is not able to take an active part in rehabilitation, placement in an extended care facility may be needed. There are different types of rehabilitation offered.

Whatever care is needed, family involvement in the patient’s care is encouraged as the patient continues to work towards independence.

**Talk to the health care team if you have any questions or concerns at anytime during the patient’s recovery.**

**Talk to your doctor or others on your health care team if you have questions. You may request more written information from the Library for Health Information at (614) 293-3707 or email: health-info@osu.edu.**