

THERAPIES and CARE - WHAT TO EXPECT

Now that you know a little about the brain and how to assess your loved one's cognitive ability after TBI, let's move on to some therapies. We have been working with our loved one for almost 3 years now and the rehabilitation process has made immense progress. What you will find listed here for therapies are only ideas that we can share with you because they worked for us. Along the way we have had a lot of "know how" conversations with many therapists and doctors. Our loved one was fortunate enough to attend a neurological clinic for six months, but we continued the therapies in simple ways at home and then took over full-time once he was released from therapy. Rehabilitation experts will tell you that post-TBI, following the first recovery timeline of coma, vegetative state, and minimally conscious state (0 to 2 months after injury), the fastest recovery will occur during the first 3 to 6 months. Then there may be another 6-month period of visible recovery, but not as fluid as the previous stage. While after 2 years of recovery there is often still some form of mental and/or physical disability, especially with moderate to severe TBI, a person can still improve from that time forward. Never give up Hope! Recently the medical community has acknowledged that further rehabilitation may still be possible, especially if the person is willing to continue being dedicated to therapy and exercise.¹ We have seen this to be true with our loved one. Attitude and dedication are everything! Here is what worked for us and seems to have made a difference in our loved one's recovery process! Remember, we are not experts, just parents willing to put their best effort forward. Always consult a medical professional.

Due to the fact that our loved one's brain injury was very severe, we experienced a multitude of medical conditions. If your doctor or therapist shares with you that your loved one has one or more conditions, educate yourself as best as possible to understand the effects on the body and the brain. You can check out the "Resources Tab" to get more information as well.

Rancho Level 1 - No Response: Total Assistance

Cognitive: While there may not be any response to external stimulation and the person is in a coma and often on life-support, there are some things that may help. After some preliminary research, we found out that comatose patients may be able to hear what goes on around them, even though they cannot respond in any way. We were not allowed to visit, due to Covid19 restrictions so we had to improvise.

- If you are allowed to, visit as often as possible. Touch the patient, hold hands, and talk as if you were having a conversation.
- Call as often as possible and ask for the phone to be put at the persons ear to listen to a familiar voice. Keep it to only a few people that call. Often hospitals have restrictions in place and may only allow a few people on a list to call in. If the hospital is not in a position to have a phone next to the patient, ask if you can bring a phone to leave at the nurses' station that can be used by transferring the call from the main number. Don't get upset when nurses may not be able to assist you! Try again later or the next day. Don't feel hurt if the phone gets hung up on after a while. There are shift changes, medical check-ups, etc. and not all medical personnel may be aware that you are still on the phone. Handling your call is something they do that goes "above and beyond". Be kind!
- Always tell the patient who you are. ("Hi Sweetie, it's Mom.") Talk to the patient in a slow manner. Do not discuss anything about the surroundings. Talk as if you were having a normal conversation and share events of the day.
- Play favorite music over a loudspeaker when you call in and let the patient listen for a while.
- Read a favorite story to the patient.

My favorite time to call in was late evening after patients had been checked on, washed up, exercised, and prepared for the night. This time was often quieter, and I would have better luck with being on the phone for a while. My favorite sign-off was "I love you. An angel is watching over you!".

Physical: At this point all physical needs are provided by medical staff. Seeing your loved one in this condition can be very traumatic. If you are preparing someone to

visit the ICU, please consider watching the video "Intensive care Unit (ICU): What to Expect / IU Health" on YouTubeⁱⁱ.



Intensive Care Unit (ICU): What to Expect | IU Health

478K views • 7 years ago



In this video, we provide tips to make you and your loved one's visit in the Intensive Care Unit go as smoothly as possible. We also ...

<https://www.youtube.com/watch?v=mytvaMVfZFc>

The stay at the ICU may involve all or some of the followingⁱⁱⁱ:

- ICU Monitors
- Respiratory Ventilator
- Breathing Tube
- IV catheter
- IV pumps
- Urine catheter
- Dialysis catheter
- Dialysis machines
- Nasogastric tube (feeding tube through the nose)
- Percutaneous endoscopic gastrostomy tube (feeding tube into the stomach also called G-Tube)
- Standby crash cart
- ECG machine and electrodes

Rancho Level 2: Generalized Response: Total Assistance

Cognitive: The person may respond to external stimulation in-consistently and non-purposefully, and the response may always be the same regardless of stimulation. Your loved one is not cognitive. Use the same methods of assisting as during level I. If your loved one is awake at times, and you are allowed to visit, bring visual aids to the room that may assist. We brought the following, and were allowed to leave these items in the room:

- 8 ½ inch x 11-inch print outs of family member photos. (Mom, dad, sister, brother, the family dog.)
- Items that were very important in the past, memorabilia. (A stuffed animal, a certificate of achievement - things that can be taped to the wall and do not get in the way are great.)
- During a visit, show videos or photos on your phone.



Physical: Patient is still in ICU or may have been upgraded to the Critical Care Unit (CCU). The patient is still experiencing life-threatening problems. The CCU provides 24-hour care and monitoring. This department is not as intense as the ICU, but it can still be traumatic to see your loved one in this environment. To you it may not seem very different than experiencing the ICU. Here is a video that might help you understand the function of the CCU: "Visiting the Critical Care Unit"^{iv}.



Visiting the Critical Care Unit

1.8K views • 4 years ago

York and Scarborough Teaching Hospitals NHS FT

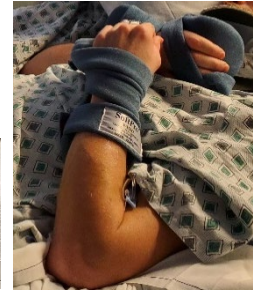
What to expect when visiting Critical Care. For more information visit: ...

<https://www.youtube.com/watch?v=VM2zkEFCqbg>

Your loved ones stay at the CCU might involve the following^v:

- Catheters, flexible tubes, are used to get fluids into the body or to drain fluids from the body.
- Dialysis machines ("artificial kidneys") for people with kidney failure.
- Feeding tubes, which give nutritional support.
- Intravenous (IV) tubes to provide fluids and medicines.
- Machines which check vital signs and display them on monitors.
- Oxygen therapy to administer extra oxygen to breathe in.
- Tracheostomy tubes, which are breathing tubes. The tube is placed in a surgically made hole that goes through the front of the neck and into the windpipe.

- Ventilators (breathing machines), which move air in and out of the lungs. This is for people who have respiratory failure.
- Braces on arms and or legs to prevent body parts from locking up or developing atrophy from not being used.
- Soft braces to prevent a person tugging on tubes attached to the body. (This is a reflex at this stage.)
- A neck brace if neck trauma is suspected.
- Intermittent Pneumatic Compression Equipment to keep blood clots from forming.

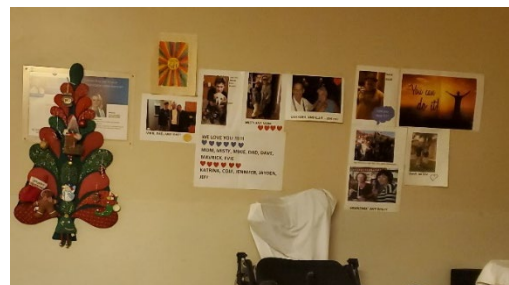


- Therapists will exercise legs and arms to the best ability.

Rancho Level 3 - Localized Response: Total Assistance

Cognitive: Patient responds more specifically to sights, sounds, touch, or pain, but does not respond in the same way every time and may respond slowly. For example, they may pull their hand away when you pinch their finger or blink when the lights are turned on. They may begin responding to simple commands such as "squeeze my hand" or "open your eyes." They may begin to recognize family and friends. You can continue using the same methods as outlined in previous levels to help your loved one. Keep your voice in a low, calm tone. Keep the room quiet and calm. Be careful not to overdo it with talking or other noises. It is very important to balance periods of stimulation with periods of rest. Assume they can hear and understand you and be careful about what you say about them. You can add the following^{vi}:

- Ask your loved one to do simple tasks like "squeeze your hand" or "open your eyes". At this level of recovery, it is normal for the patient to respond the wrong way, respond slowly, or not respond at all. Give them plenty of time to respond. Don't get upset if the response is incorrect.
- Limit the number of visitors to 2-3 for each visit and for the day.
- Watch your favorite movie.
- Listen to music.



- Comb hair or put on lotion. Try to complete simple tasks.
- The hospital or skilled nursing facility may provide speech therapy (at this stage involves the assessment of cognition and reteaching of simple tasks.)
- At home you can work with simple flash cards (colors, ABC's, 123's).

Physical: Your loved one may still be at the CCU or may have been transferred to an inpatient skilled nursing facility if the physical condition allows. If you are now able to interact with your loved one at an inpatient skilled nursing facility, then you may have more freedom to come more often and interact more actively. This type of rehabilitation facility is usually designed to accommodate a short-term stay following hospitalization. The length of the stay is determined by the medical condition. At this type of care facility, the patient is provided with a primary physician, physical, occupational, and speech therapy, while nurses are available 24-hours a day and the care team manages the patient's care. Once the patient is stabilized, they can be discharged home. If they are not progressing, it may be recommended to move the patient to a long-term care nursing home^{vii}. Your loved one's activities during the day may include a limited amount of the following depending on cognitive and physical condition:

- Occupational Therapy (at this stage provides assessment of range of motion, strength, pain, coordination, cognition, and vision).
- Physical Therapy (at this stage maintaining blood flow and assuring that body remains limber and atrophy free).
- Speech Therapy (at this stage involves the assessment of cognition and reteaching of simple tasks.)
- Lots of Rest

Depending on your loved one's physical condition you might experience the following equipment:

- Catheters, flexible tubes, are used to get fluids into the body or to drain fluids from the body.
- Feeding tubes, which give nutritional support.
- Intravenous (IV) tubes to administer fluids and medicines.
- Machines which check vital signs and display them on monitors.

- Oxygen therapy to administer extra oxygen to breathe in.
- Braces on arms and or legs to prevent body parts from locking up or developing atrophy from not being used.
- Soft braces to prevent a person tugging on tubes attached to the body. (This is a reflex at this stage.)
- A neck brace if neck trauma is suspected.
- Intermittent Pneumatic Compression Equipment to keep blood clots from forming.
- Medical bed
- A hoist lift
- Bedside commode
- Shower chair
- Wheelchair



Rancho Level 4 - Confused/Agitated: Maximal Assistance

Cognitive: Your loved one's brain is trying to make sense of it all. The individual is in a hyperactive state with bizarre and non-purposeful behavior. Demonstrates agitated behavior that originates more from internal confusion than the external environment. None to little short-term memory. At this stage your loved one might also be at an inpatient skilled nursing facility for rehab or may be able to come home depending on physical condition. It will be necessary to work with a speech therapist or speech pathologist at this point. Continue all of the cognitive activities that you have become accustomed to by now from Levels 1, 2, and 3. In addition the following therapy will be important:

- Often tell them the month, day, and time, as well as where they are and what has happened to them. Buy or make a calendar with large lettering to help orient them. We used a modifiable calendar that only focused on the day at hand for less confusion. Day, Month, Date, Year. (See Resources.)
- Do not try to make them do a task if they don't want to. Instead see if you get information from your loved one on what might be a desired activity. We focused on a small amount of special recognition by stacking shapes inside of other shapes. (See Resources.)
- Tell them that they are safe.
- Decorate the room with many familiar objects (photos, blankets, toys).

- Introduce simple tasks like eating, putting on ChapStick or deodorant, brushing teeth.
- Introduce choices (red shirt, blue shirt).
- If the patient is not talking, use other ways of communication such as head movements or finger tapping to show "yes" or "no". The Speech Language Pathologist and/ or Occupational Therapist will be able to help to direct you with this task. We created a simple communication board with symbols. (See Resources.)
- Continue to play simple flashcard games "A,B,C's; 1,2,3's, Colors". Remember your loved one has to relearn! Don't get angry if the answers are incorrect. Simply guide to the correct answer. Fun activities included watercolor painting from a watercolor coloring book. (You can also look at the Resources Tab.)

Physical: Your loved one responds but can be very agitated. The patient may grunt, make odd noises, and wave hands around. Speech may not be possible yet. The patient might make sudden and irrational movements and might have to be restrained so they don't hurt themselves. In a facility setting your loved one will continue to receive:

- Occupational therapy (at this level this means continued core strengthening, coordination, and assessment of mobility - see resources)
- Physical therapy (at this level this means continued muscle work, attempting to sit, stand, etc.)
- Speech therapy (at this level this means physical conditioning of mouth muscles, throat muscles, and re-teaching of simple tasks, perhaps recognition of colors and alphabet or simple objects - see resources.)

If your loved one is at home, it is necessary to arrange the above-noted therapies in-house or on an outpatient basis to ensure continued progress. Let the therapists guide you in what activities you can attempt at home. Check out the "What to Expect during Inpatient Rehabilitation / Discharge Process / Encompass Health" video on this topic if you'd like to^{viii}.



What to Expect During Inpatient Rehabilitation | Discharge Process | Encompass Health

19K views • 1 year ago



As you prepare for the next step in your recovery, we want you to know what to expect during inpatient rehabilitation every step of ...

https://www.youtube.com/watch?v=Z-4cfivC_3g

Equipment you may need or encounter:

- Catheters, flexible tubes, are used to get fluids into the body or to drain fluids from the body.
- Feeding tubes, which give nutritional support.
- Intravenous (IV) tubes to administer fluids and medicines.
- Machines which check vital signs and display them on monitors.
- Braces on arms and or legs to prevent body parts from locking up or developing atrophy from not being used.
- Soft braces to prevent a person tugging on tubes attached to the body. (This is a reflex at this stage.)
- A neck brace if neck trauma is suspected.
- Intermittent Pneumatic Compression Equipment to keep blood clots from forming.
- Homecare suction unit
- Hospital bed
- A hoist lift
- Bedside commode
- Shower chair
- Wheelchair
- Head support gear
- Medical Supply Area (depends on what is needed - see resources.)



If your loved one comes home to be under your care, ensure that you are aware of all underlying medical conditions. Depending on which part (or parts) of the brain

was (were) damaged, your loved one may experience many issues such as problems as swallowing, speaking, muscle issues, just to name a few. Educate yourself on these conditions to ensure the safety of your loved one. (See Resources Tab for more information.) Also educate yourself with regard to all of the equipment he will be sent home with and learn how to use it. If your loved one is at home, it is important that he/she has their own space for quiet time, rest, and working one-on-one with therapists as well as you. Limit overstimulation. As shared, your loved one will experience anxiety, exhibit irrational and unsafe behavior. They are not doing this on purpose, it is part of the natural process of rehabilitation. This time can be very difficult if you are a caregiver. Prepare yourself for sleepless nights, making tough choices (you may need to restrain your loved one), and lots of personal contact to keep your loved one safe. For example: Our loved one became so agitated that it was necessary to restrain his hands to prevent removal of his feeding tube and wound patches or wound pump (bedsore). The Resource Tab has some ideas on how you can set up your loved one's space to assist you as best as possible.

Rancho Level 5 - Confused, Inappropriate, Non-Agitated

Cognitive: Your loved one might be more awake now and can respond to simple commands. Focus may be extended to a longer time period, but there is a high amount of distractibility. They might recover some long-term memory, but short-term memory is still an issue. For example, the patient may not remember what was eaten for breakfast, but may remember familiar tasks (brushing teeth, brushing hair, dressing, eating, etc.) It might appear as if your loved one has no manners and you might experience the show of inappropriate behavior (sexual comments or actions, eating food with fingers ...) In a facility setting your loved one will continue to receive speech therapy. In an at-home setting your loved one may have a speech therapist that comes into the home, or the patient may need to be taken to a therapy session, if physically possible. This therapy might include some of the following elements:

- Continued speech therapy with a therapist in-home or at a facility.
- Continued speech therapy at home - cognitive. (We used more flashcards without words at this point, only pictures. Such as animals, objects, and food. We introduced more spatial thinking for cognitivity such as a shape cube, and simple online educational games. We revised the communication board to include more symbols. See Resources.)
- Continued speech therapy at home - diaphragm. (Muscles are often weak and speech returns slowly. Other than oral exercises provided by a speech

therapist, we also found some fun ways to address this issue. We blew bubbles, we blew into kazoos. See Resources.)

- Cognitive therapy. (We were very fortunate in the way that we were allowed a cognitive therapist for our loved one. This professional also gave us more feedback on cognitive progress and how to continue working with our loved one at home. We played Dominos, Connect Four, and Uno. See Resources.)

At this junction, cognitive and physical therapy may overlap, depending on the goal to be achieved.


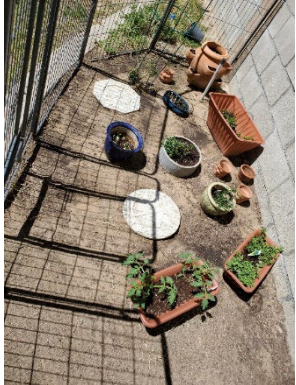
Physical: Tasks might physically still be very challenging, depending on the type of brain injury. (Walking, standing, arm movements, getting dressed ...). You should expect the following:

- Continued therapy with an occupational therapist. In-home or at a facility.
- Continued therapy with a physical therapist. In-home or at a facility.
- Continued therapy at home - Exercise. (At this point it was necessary for us to set up a daily exercise routine for our loved one. All exercise hand-outs and information provided by therapists was added to the daily routine on an ongoing basis, which was organized in a binder for easy review. There are some basic exercises that can be done with any sedentary patient, but please consult with your therapist to ensure they are safe for your loved one. See Resources.)
- Continued therapy at home - Motor Skills. (Our loved one had mobility issues, so we set up different activities every day, just emphasizing fun and also to help with cognitive issues. We used large building blocks to build things that were functional; we used other types of building sets to create art; we used flannel and sticker boards to help with hand/arm/eye coordination; we used magnetic letters and numbers to encourage our loved one to share a message with friends and family and took pictures to text or email them. Simple puzzles provided a fun family activity for hand/arm/eye coordination. Specific hand/finger therapy included experimenting with play dough. See Resources.)

Rancho Level 6 - Confused - Appropriate

Cognitive: Your loved one may now follow simple directions most of the time. There is more recall of everyday tasks (feeding, dressing, bathing, etc.). Short-term memory is still poor, so learning new information is hard. More awareness of place and time and longer attention span. At this stage the patient will try to engage more

with surroundings and behave more appropriately. There is still some confusion, and the patient still needs constant care and supervision. It might appear that there is self-centeredness. In-facility and at-home rehabilitation will continue with:

- Continued speech therapy with a therapist in-home or at a facility. (We were given a prescription for a breathing trainer to assist with diaphragm strength for speaking. We introduced an online "speaking class" for practice.) 
- Continued speech therapy at home - cognitive. (We used more flashcards at this point pictures with subtitles. Such as animals, objects, and food, but we also expanded the collection to include "action words" and "science concepts". To encourage speaking, we placed an "Echo Speaker" in the room and asked our loved one to give simple commands. We introduced worksheets for reading comprehension and math. We continued with all of the previous activities. See Resources.)
- Continued speech therapy at home - diaphragm. We introduced large print word puzzles and encouraged our loved one to relearn how to write. We continued with the same exercises as before. See Resources.)
- Cognitive therapy at home: (We expanded our loved one's outdoor activities. Our loved one has always liked gardening, so this became a major activity that we did for emotional health. We also introduced art concepts by using very large beads to craft macrame hangers for the plants. We worked on having our loved one express his individuality by choosing different bedding and creating a license plate for his wheelchair. We reintroduced the concept of chores and let him assist with doing dishes, cooking, washing cars and other chores as far as his physical abilities allowed. We established a routine for our loved one to socialize outside of the house with friends. We purchased a simple cellphone and set up a schedule during which our loved one was able to communicate with friends and family. We assisted our loved one with attending a class reunion by acting as chaperones outside of the meeting area, while close friends escorted him. Our loved one has always loved dogs, so we allowed our loved one to get a pet for companionship. We added playing memory building games. We added a large tv to the living space with a tv subscription so our loved one could choose to watch his favorite shows. We added more difficult board games to our fun activities. See Resources.) 

Physical: Depending on the brain injury, tasks may become easier to complete, or there may still be physical challenges to overcome. You should expect the following:

- Continued physical therapy at a facility or in-home.
- Continued occupational therapy at a facility or in-home.
- Continued therapy at home - Exercise. (Exercise program may remain the same or become more involved. Make a schedule if you need to. See Resources.)
- Continued therapy at home - Motor Skills, Core Strength, Mobility. (Our loved one needed continued therapy in both of these areas. For motor skills for hands and fingers we created a sensory tub to stimulate nerves. For mobility we purchased a peddle machine and included this exercise in the daily routine. For core strength we began doing standing and sitting exercises in the wheelchair. We continued to challenge our loved one's artistic side as well by creating items he could make with minimal assistance and give as gifts. See Resources.)

Level 7 - Automatic, Appropriate

Cognitive: The person can now handle daily routine without very little assistance or confusion. The patient still has poor judgement or will find it difficult to find solutions for problems. Your loved one may not realize that poor insight is exhibited. The patient can learn new information, but at a slow speed. The patient may still need supervision due to distorted thinking. Your loved one will be able to participate in recreational and social activities as far as mobility allows it. At this point you may still have therapeutic assistance, but it will be less involved. Therapy should still be provided to continue progress.

- Continued speech therapy with a therapist in-home or at a facility
- Continued speech therapy at home - diaphragm / pronunciation (We continued using the breathing and oral exercises for speech therapy. We emphasized daily on-line speaking classes. We added a mirror to the speech therapy routine for our loved one to see his mouth movements when completing the oral exercises.)
- Cognitive therapy at home. (Our loved one was now home full-time and only leaving the home for specific physical therapy sessions. We were able to set up an educational/cognitive curriculum to continue progress with re-learning and becoming more cognitive. There was also the issue of learning to write

with the “unnatural” hand and we introduced printing exercises. We encouraged social interaction via on-line meetings on a laptop to re-introduce our loved one to old friends and spark memories and encouraged old friends to visit. We also set up a highly private social media account for our loved one with monitoring features. Remember, TBI causes a lack of filtering and rational thinking, so if you do this, be prepared to login daily to ensure your loved one’s safety. Our loved one’s license expired during his recovery, so we assisted him with the task of getting a State I.D. This immensely boosted his self-esteem. We now allowed our loved one access to his finances as the cognitive stage now allowed that with supervision. Board games played became much more involved and now included Scrabble and That’s It. See Resources.)



Physical: Depending on your loved one’s injuries this may improve considerably or may need further therapeutic intervention.

- Continued physical therapy at a facility or in-home. (Our loved one continued to physical therapy once a week at a facility.)
- Continued occupational therapy at a facility or in-home. (Our loved one no longer received occupational therapy outside of the home.)
- Continued therapy at home - Exercise / Mobility (We added walking exercises to our daily routine and bought a walking cage. We received continual feedback from the physical therapists and continued adding exercises for mobility and core strength to our repertoire. We also purchased an assistive walker to practice standing up out of the wheelchair. Our loved one was encouraged to continue assisting with chores and was able to accomplish many more tasks with assistance.)

Rancho Level 8 - Purposeful, Appropriate

Cognitive: At this level your loved one will have some improved memory but will still have trouble with short-term memory loss. Be aware that bad memories can return as well! Be ready to help your loved one to work through the process! Depending on severity of brain injury, a person may still be slow to figure out certain situations and might not use good judgment. The person’s behavior is adequate to function in most social situations. Thinking problems might only be noticeable by close family members and friends.

- Continued speech therapy with a therapist in-home or at a facility (This was only intermittent from here on out.)
- Continued speech therapy at home - diaphragm / pronunciation (We continued using the breathing and oral exercises for speech therapy and continued with on-line speaking classes. We added special word drills and continued oral exercises with a mirror.)
- Cognitive therapy at home. (We continued with the educational/cognitive curriculum to continue progress of re-learning and becoming more cognitive. Worksheets were now more difficult and involved social situations. Continued learning to write with the "unnatural" hand and we introduced cursive writing exercises. We added a twice-a-month art class to stimulate the process of thinking through systematic processes. We continued to encourage social interaction via on-line meetings on a laptop and activity on a highly private social media account. There was still a problem with judgment, so it was still necessary to monitor the account. Our loved one was now able to make on-line and in-store purchases and figure out finances. We still played lots of board and word games. Our loved one was now interested in putting together puzzles with 500 pieces and began an exchange of puzzles with relatives. See Resources.)



Physical: Depending on your loved one's injuries this may improve considerably or may need further therapeutic intervention.

- Continued physical therapy at a facility or in-home. (Our loved one continued to physical therapy once a week at a facility.)
- Continued therapy at home - Exercise / Mobility (We continued the daily exercise routine which included all recommended exercises from Level 1 through Level 7. Our routine became quite involved. Therapists still continued adding exercises for mobility, core strength, and to assist with calcification to our repertoire. See resources.)



Rancho Level 9 - Purposeful, Appropriate

Cognitive: At this level your loved one can handle daily routines. If there are physical limitations, the patient will often figure out a "go-around" to accomplish the task or will only need stand-by assistance.

- Continued speech therapy at home - diaphragm / pronunciation (We continued using the breathing and oral exercises for speech therapy and continued with on-line speaking classes. We added special word drills and continued oral exercises with a mirror.)
- Cognitive therapy at home. (At this point our loved one decided to pursue a new career, since the possibility of continuing on the previous career path became too difficult. For this reason, our loved one went back to school and began attending on-line college classes. On days with little schoolwork, we continued with cognitive curriculum and vocabulary, which was still a problem due to short-term memory issues. We continued with the twice-a-month art class. We still played lots of board and word games. We added some memory building activities like scrapbooking and journaling. Our loved one was now able to handle social media and texting with very minimal guidance.)

Physical: Depending on your loved one's injuries this may improve considerably or may continue to need further therapeutic intervention.

- Continued physical therapy at a facility or in-home. (Our loved one was now participating in two physical therapy sessions a week, one on land and one in water. He was prescribed a kafo (Knee Ankle Foot Ortho Brace) to assist with walking.)
- Continued therapy at home - Exercise / Mobility (We continued the daily exercise routine which included all recommended exercises from Level 1 through Level 8. Therapists still continued recommending additional exercises for mobility, core strength, and to assist with calcification. We added balance exercises as well as purchased a hemi walker to practice walking. See resources.)

Rancho Level 10 - Purposeful, Appropriate

Cognitive: Very much like Level 9 this depends on how severe the brain injury was. Most individuals that reach this level can function on their own but may exhibit problems with filtering and judgment for the rest of their lives. Some develop other mental issues like OCD to compensate. Also, never underestimate the power of PST. Key to continued improvement for cognitive issues is repetition, repetition, especially when it comes to short-term memory retention. (See Resources.)

- Continued speech therapy at home - diaphragm / pronunciation (We continue using the breathing and oral exercises for speech therapy and continue with on-line speaking classes.)
- Cognitive therapy at home. (Our loved one is able to handle a schedule of two classes per semester now and is progressing well. On days with little schoolwork, we still continue with cognitive curriculum and vocabulary, as well as continuing with the twice-a-month art class. Our family activities are centered around shopping, playing family games, scrapbooking, and doing art projects and gardening. Privately our loved one is progressing with making better social decisions and communicates with many friends and family. There are normal outings now like lunches and dinners and meeting with friends, as long as our loved one feels secure, they can handle is physical needs. Our loved one has become very accustomed to asking tough questions and has become better at making appropriate judgments in this area.)

ⁱ Mariah Cairer. 2022. "TBI Recovery Timeline: How Long Does It Take to Recover?" Flint Rehab. Retrieved September 12, 2023. <https://www.flintrehab.com/tbi-recovery-timeline/>

ⁱⁱ IU Health. 2016. "Intensive Care Unit (ICU): What to Expect / IU Health". IU Health. Retrieved September 13, 2023. <https://www.youtube.com/watch?v=mytvaMVfZFc>

ⁱⁱⁱ Portea Heal at Home. 2023. "Essential Medical Equipment for the ICU". Portea Heal at Home. Retrieved September 13, 2023. <https://www.portea.com/nursing/list-icu-equipment/>

^{iv} York and Scarborough Teaching Hospitals NHS FT. 2019. "Visiting the Critical Care Unit". York and Scarborough Teaching Hospitals NHS FT. YouTube. Retrieved September 13, 2023. <https://www.youtube.com/watch?v=VM2zkEFCqbg>

^v Medline Plus. 2023. "Critical Care". NIH. Retrieved September 13, 2023. <https://medlineplus.gov/criticalcare.html>.

^{vi} Matthew E. Bain. 2019. "Brain Injury: How can help with recovery". HealthPages.org. Retrieved September 13, 2023. <https://www.healthpages.org/health-a-z/brain-injury-recovery/#:~:text=%E2%80%A2%20At%20this%20level%20of%20recovery%20it%20is,calm%20tone.%20Keep%20t%20room%20quiet%20and%20calm.>

^{vii} Amanda Lambert. 2021. "Skilled Nursing Facilities Explained: Pros, Cons & Features". Cake. Retrieved September 13, 2023. https://www.joincake.com/blog/skilled-nursing-facility/#h_10191791121595970312059

^{viii} Encompass Health. 2022. "What to Expect During Inpatient Rehabilitation / Discharge Process / Encompass Health". Encompass Health. YouTube. Retrieved September 13, 2023. https://www.youtube.com/watch?v=Z-4cfivC_3g