

# Rehabilitation and recovery

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[00:00:05] **Dr. Rajashree Srinivasan:** Thank you for having me here today. I am going to be talking about rehabilitation and recovery of various aspects of patient care. So, rehabilitation is very important to ensure that there is a return of function from an injury. Either it can be a return of function from an injury or teaching and empowering a family with information about how to cope with whatever has changed.

[00:00:37] An injury is basically just an event in life that alters function from baseline. There's various types of rehabilitation depending on which part of the body is affected. So, there is brain injury rehabilitation, spinal cord injury rehabilitation, pediatric which specifically focuses on children, and neurological which is basically looking at the neurological aspects that are affected. And of course, sports rehabilitation, cognitive rehabilitation, and drug rehab.

[00:01:12] So, rehabilitation can happen in different areas. It can either be in an inpatient setting where therapies are provided to the patients or it can be in an outpatient setting. And sometimes if neither of these two are an option, then home health therapies are also provided. Inpatient rehabilitation can be of two varieties. It can either be in an acute care inpatient rehabilitation setting or in a sub-acute rehab where the focus is more on ensuring that the patients get their medical care in addition to the therapies being received.

[00:01:53] Obviously, it cannot happen without the assistance of our allies. So, depending on what the patient needs are, there are various needs that are addressed with the assistance of different disciplines. So, physical therapy helps with improving function of the lower extremities and things like bed mobility with transfers from a bed to a wheelchair, range of motion, stretching, strengthening, gait training, evaluating equipment like a wheelchair or standards, or things like that.

[00:02:31] Occupational therapy focuses on activities of daily living which include the ability to dress oneself, the ability to go to the bathroom by yourself, the ability to feed, and things like brushing your teeth, taking a shower, all those kind of things. And they also help focusing on upper extremity function, which is using your upper extremities. If a patient has had a stroke, then one side is not working. So, teaching the patients how to use the other side or trying to do bi-manual activities.

[00:03:13] And then the focus also is on stretching, strengthening with fine motor activities as these can also get impacted. And like I said, bi-manual activities and visual perceptual skills, which is the ability to look at an object and understand as to where things are in space. Speech therapy, the focus is on speech, communication, swallowing, chewing, cognition. And this is one of the important therapies that is more utilized in things like the involvement of the brain.

[00:03:58] With spinal cord injury majority of the times we see physical therapy and occupational therapy taking more of a role in the patient care. When there are lesions in the brain in patients with multiple sclerosis. If there are lesions in the brain in patients with acute demyelinating encephalomyelitis, then if again, if there are brain lesions, then speech therapy is going to be focusing on different aspects as I mentioned.

[00:04:30] The focus of rehabilitation varies. So, initially, when the rehabilitation specialist meets the patient, there we obtain a complete history based on whatever has happened with the patient. And then the therapists also get involved where and they also do their own evaluation. Sometimes even with the addition of a neuropsychologist which would be important in case of cognitive deficits.

[00:05:04] The other focuses in rehab include evaluation of the equipment. So, this can be as to what kind of an appropriate wheelchair needs to be ordered for the patient, use of a bed chair, use of a toilet seat, using of crutches or canes and all this would be evaluated based on each patient as each patient needs are unique. The history is very important for a rehab physician in determining what kind of things the patients need.

[00:05:42] For instance, we always like to know about the house setup, meaning to say, do they live in a house? Do they live in an apartment? If they live in a house is this a one-storey home or is this a two-storey home? And are there any steps to enter the house? And if there are steps, then obviously if the patient is a wheelchair user, then a ramp would need to be built. And the coordinating of all this care is helped with the team that the physician has access to.

[00:06:22] And then also it's important to determine the accessibility of the bathrooms because sometimes if the patient is a wheelchair user, then the regular-size bathrooms will not allow for the wheelchair to be able to go into the bathroom. And hence, the size of the doors is also important in addition to all of this, the patients obviously will need caregivers who will need to be trained to provide the necessary care.

[00:07:01] And it's important to know is there somebody who's going to be with this patient to make sure that they are cared for, depending on what kind of involvement they have. Sometimes they may need help going to the bathroom, they may need help taking a shower, they may need help with eating, they may need help with sitting. And it's also always important to know what kind of resources are available for the patient care as well.

[00:07:34] And in addition to all of this training of the caregivers are very important prior to discharge from the hospital. This is because after the patients have received their therapies and have an idea of the care they need, advocacy is also important where we teach the patients to be advocates for themselves. But in addition to all of this training of the caregivers is very important because if the patient is unable to do things for themselves, then it is important to have somebody who is able to provide that necessary care.

[00:08:15] And in addition to all of this as the caregivers are being trained, the patients are also being trained to be aware of what kind of things they need so that they can help the caregivers also help them better by knowing what their needs are. The other part of inpatient rehabilitation is also review of medications that the patients are on and help provide prescriptions for them.

[00:08:50] So, in an inpatient rehab stay, usually what happens is the patient comes in, they are evaluated by the various team members and the discharge planning process starts when the patient is admitted to the hospital. There is so much involved in ensuring that the patient has a successful discharge home that we start day one when we are gathering all this data.

[00:09:20] In addition to all of this, it is important to know what kind of things the insurance companies are going to help provide for the patients. It's also important to know what kind of resources the patients have. If they don't have any resources, don't have any insurance or things like that, then social workers in our care coordination team, care managers get involved to help explore options for what can be provided to the patients.

[00:09:57] Basically, we are asking the family members to be the nurses, the therapists to be able to care for the patient. Hence, it's very important to ensure that they have a clear understanding of the different medications. So, the medications that the patients are on the nurses teach the families as to why the medication has been prescribed, how to administer the medication, what to do when a dose is missed. And then they are provided with prescriptions.

[00:10:30] And in our hospital, usually we ensure that the patients have a month's supply of medications on hand before they leave the inpatient unit. And in addition to all of this as we are discussing the discharge planning and everything we also like to make sure that there is a discharge disposition, i.e. that they have a place where they will be going like a home or an apartment and that they have somebody who is going to be caring for the patient. What kind of help is available?

[00:11:04] Sometimes we hear things like, oh yeah, the patient is going to go home but the caregivers are working like eight hours in a day. So, then you have to look at what assistance can be obtained from an insurance perspective. Insurances will help provide nursing care if there is a medical need and if there is not a medical need, usually attendant care is what is looked at from the perspective of ensuring that the patients have what is necessary.

[00:11:42] And as I said, insurance does not necessarily cover everything. So, the care coordinators are working with the insurance companies to determine what kind of coverage exists and then plan with the assistance of the team members which includes your medical team, the therapist, care coordinators, social workers to ensure that the patient goes home and stays home.

[00:12:14] A successful stay in an inpatient setting is mainly when the patient goes home and stays home and does not come back into the hospital with the same issues. Once the inpatient rehabilitation is complete. Then after everything has been set up, the patients go home and usually, they are also recommended to continue with outpatient therapies if they have the ability to take their loved one to the therapy center.

[00:12:54] If that is not possible, then home health therapies are also an option where the therapist depending on whichever home health company is available through the insurance, the therapists come home and provide services to the patients. One thing to remember is inpatient therapies. Inpatient rehabilitation obviously is providing a lot of medical care and therapies with a whole team, a slew of team members who are ensuring that the patients get what they need.

[00:13:33] Once they have reached a point where they will continue to make the same kind of progress in therapies with not such intense rehabilitation then outpatient therapies are recommended and which varies from one to two times a week as opposed to the inpatient rehabilitation which is usually about five to six times a week. Home health therapies are also lesser as opposed to inpatient rehabilitation.

[00:14:19] So, overall rehabilitation is determined based on the diagnosis. The principles of rehabilitation may be the same but management of brain involvement is different from spinal cord involvement. Patients with transverse myelitis tend to present more with a spinal cord injury-like picture as opposed to multiple sclerosis involving the brain presents like a brain injury. Focus in rehabilitation is on management of bowel and bladder.

[00:14:57] Typically, if the patients have spinal cord involvement, depending on their level of injury they can have problems with maintaining their blood pressures. And these can usually be triggered by something innocuous like having a constipation or having a urinary tract infection. So, we tend to make sure that all these issues are addressed and that the patients are taught about what to look for.

[00:15:29] Management of tone. Muscle tone can vary depending on an infection or if there is something else that is triggering the increase in tone. And this is important as the increase in tone can interfere with the function, with activities of daily living, with positioning in the wheelchair or positioning in bed. It can also cause pain as it can cause cramps.

[00:16:02] So, management of tone either with oral medications or other modalities are something that rehabilitation also focuses on. Patients who have involvement of the brain or having been in the hospital for so long they have problems with maintenance of sleep wake cycles. So, they end up sleeping during the daytime and staying awake at night. And regulation of this is one of the important features to ensure that the patient is actually awake during the therapy times and this helps with the healing process as well.

[00:16:51] Management of pain. Pain can be due to various reasons. It can be because of the disease process. It can be due to the increase in the tone, it can be due to nerve pain or other types of pains. So, evaluation of that and then providing adequate treatment plans is one of the focuses of rehabilitation. And like I said before, education of the family and the patient is also important.

[00:17:22] For patients who have had transverse myelitis, who have decreased sensation below the level of the injury, it is important to ensure that they are aware how to care for the skin. Hence, there's a focus on seating ensuring that the chair that is being provided is not putting any pressure on the incensed areas and then ensuring that they have adequate equipment and positioning. And that's all I have.