NRRTS National Registry Of Rehabilitation Technology Suppliers

NRRTS Practice Guidelines for CRT Service, Preventative Maintenance, and Repair

Dear CRT Colleagues,

Difficulties in providing and receiving CRT Service and Repair have become challenging to all stakeholders. The various influences that challenge access to necessary service and repairs are the subject of much discussion, and it is difficult to reach understanding between those most impacted. Repair times, level of reimbursement for service and parts, in home service capacity and feasibility, hiring and securing qualified staff, procedural complexity challenge suppliers. Considering the reported loss of revenue associated with repairs, increased complexity of power wheelchair designs, and onerous policies regarding repairs, it is understandable that suppliers are under significant pressure and consumers are dissatisfied.

For people who depend on mobility devices, loss of the device, even when temporary, impacts consumers in devastating ways, such as, loss of work/school, inability to perform daily tasks, inability to care for themselves or their families, and can lead to time in bed, decline in health, increase pain, and create a decline in quality of life. Dissatisfaction and frustration with the state of repairs has escalated and has led some consumers to advocate for "Right to Repair" legislation in multiple states. Despite this current negative environment, the process can be improved if all of the stakeholders cooperate to identify the problems and barriers to service and repair, work together to redefine processes and procedures, documentation requirements, and reimbursement methodologies. Tactical steps to consider are:

1. Suppliers should consider:
    a. Establishing best practices for repair,
    b. Investing in training,
    c. Establishing clear service expectations and communicate in writing with clients,
    d. Communicate with clients when delays occur,
    e. Suppliers must work together to collect and share repair data in pursuit of defensible, publishable, and usable information.
2. Manufacturers should consider:
    a. Ways to improve owner's manuals to include recommended preventative maintenance including the level of technical expertise required to perform each step,
    b. Ongoing investment in remote diagnostics and technological methods for determining repair needs and declining function.

c. Focus development on mechanisms to collect and preserve data regarding performance and ways to alert consumers and suppliers regarding needed repairs and maintenance.

3. Payors have a significant role to play in improving access to repairs and should consider:
    a. Reviewing prior authorization requirements and consider reducing or eliminating them especially for components that are expected to require service,
    b. Simplifying and standardizing documentation requirements for CRT devices prior to repair,
    c. Meet with suppliers to discuss concerns regarding rates associated with repair parts, labor time, payment for in-home repair travel, when the consumer is unable to get the device to the supplier's location, and coverage and payment for acceptable short-term rental CRT mobility devices.

All stakeholders, suppliers, manufacturers, clinicians, consumers, and payors should work together to identify barriers to timely and professional repairs and agree on initiatives to influence positive change. Efforts are needed to understand the complex factors that impact the wear and function of mobility devices, and the role that timely and proper maintenance can play in reducing catastrophic device failure. Identify the challenges that suppliers face in providing timely repairs.

As a first step in this long process, NRRTS (as the subject matter experts on CRT provision), in cooperation with the University of Pittsburgh, has developed the attached *Best Practice for Service, Maintenance and Repair document* through a review of collected data, studies of repair frequency, profitability, and trends, a presentation of a rough draft at ISS, and an open comment period prior to the publication of the document. The trajectory of the current CRT repair process is neither sustainable financially by the supplier nor acceptable by the CRT consumer and medical communities.

The Best Practices for Service and Repair is the first critical piece of the process. ***Best Practices are not policy. They are recommendations by NRRTS to improve the process of CRT repairs resulting in increased consumer satisfaction.***

The industry has continuously improved itself through RESNA standards, credentialing, and continuing education, but the repair side of the process has lagged in the production of best practices.

The purpose of this "Best Practices for Repairs" document is for the CRT professional organization, NRRTS, to take the lead in producing a standard guideline rather than wait for an outside agency, legislative, or regulatory body to set one for the industry. It is imperative that the CRT industry establish best practices based on our history and knowledge as well as accepted research data from academic, medical, and scientific institutions.

Through these guidelines, NRRTS hopes to accomplish the following:

1. Standardized practices can be used to demonstrate to both legislative and regulatory bodies the complexity of CRT repairs which would in turn lead to:
    a. Reduced lead times for consumers through improved processes and procedures.
    b. Reduced lead times for suppliers and consumers through simplification and standardization of documentation requirements.
    c. Improved safety for consumers through adequate coverage and reimbursement for appropriate and reliable short-term rental wheelchairs.
    d. Improved reimbursement rates for CRT repair parts and labor that afford suppliers the ability to serve their clients well.

The first step in accomplishing the above goals and expectations is to have industry accept "best practices" to establish internal policies rather than having them dictated to us by those who do not fully understand the complexity of CRT.

Sincerely,

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NRRTS Practice Guidelines for CRT Service, Preventative Maintenance, and Repair

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Background

Complex Rehabilitation Technologies (CRT) including custom fitted manual and power wheelchairs are crucial to the everyday lives of people with-disabilities such as spinal cord injuries, cerebral palsy, brain injuries, and multiple sclerosis. As with all types of equipment, these devices and associated seating and positioning systems do require regular maintenance, repair, and the replacement of components to maintain user health, function, and participation. Experience and research show that the wheelchair requires regular services to ensure appropriate use including physical checks, adjustments, and/or maintenance to reduce the magnitude of overall repair cost, complexity of parts needed, and procurement time. Device failures and subsequent adversities are well documented. Studies further indicate an increase in wheelchair failures with a decrease in timely and accessible services to address the issues. Further research indicates that most users are not aware when their device requires maintenance or repair and are often unable to perform these tasks themselves. The purpose of this document is to establish a best practice for CRT maintenance and repair to inform stakeholders including the public, consumers, practitioners, and policy makers to improve the overall state of the issue.

Scope

For this document, service is defined as any inspections, maintenance, component replacements, or repairs performed on complex rehabilitation technologies (CRT).

NRRTS Practice Guidelines for wheelchair service including repair and maintenance provide a guideline for registrants to achieve consumer safeguards and high-quality service. It further supports NRRTS and its registrants as valued members of the healthcare community. Such standards are also intended to facilitate consumer well-being, continuous quality improvement, and equitable third-party coverage policy.

I. These practice guidelines address three (3) primary areas:
    a. **Efficiency:** Support timeliness of service by decreasing burdens associated with intake, assessment, and completion of service.
    b. **Documentation:** Standardized procedures for monitoring and managing CRT devices.
    c. **Prevention and Replacement**: Identify critical warning signs of component failure and establish preventative maintenance procedures and timelines to assure product reliability and provide component service replacement prior to failure.

CRT Service Methods

The practice guidelines designed to achieve the intended outcomes are:

I. Intake Process
    a. Maintain accurate records of each device that includes model of product, serial number, date of purchase, distance traveled (whenever possible), and repair history. Such

information is critical for understanding needs over time related to maintenance, repair, replacement, and recalls.

II. Service Environments
    a. Three viable service options described below should be discussed with the consumer and supplier to make the best decision. Overall, service should occur in an accessible setting conducive to the type of service being provided.
        i. When possible, service should take place in a service facility to ensure:
            1. Best ergonomic environment to prevent injury to the technician and to the consumer.
            2. Best access to necessary tools should any additional repairs or issues arise.
            3. Best access to additional parts if needed.
            4. Reduced appointment and travel time which in turn reduces overall repair time.
        ii. Another option is a mobile repair van that functions as a repair facility on wheels and can be deployed to the home or clinic. This achieves the above goals while reducing travel issues for the client. It is imperative that these vehicles include all necessary tools in order to ensure any number of repairs, whether they are expected or not, can be completed within the visit.
        iii. Repair in the consumer's home may occur when the consumer's and/or caregiver's ability to travel is restricted or the provider deems the home location as most efficient for all.

III. Remote Technology
    a. Prior to service, a service request should be triaged to determine the best approach to addressing the service issue. This can be performed through a variety of strategies such as interactive video inspection and data available from the device.
        i. Utilize available remote strategies to monitor, assess, and triage to resolve the problem or to schedule an in-person service encounter.

IV. Service Encounter
    a. At the time of any in-person encounter, the equipment should be inspected for all identified and any potential unidentified issues to avoid unforeseen loss of mobility and additional service trips for the consumer.
    b. Complete any preventative maintenance items recommended by the manufacturer to prevent additional service calls or loss of mobility for the consumer.
    c. In the event of an extended repair cycle, an acceptable short-term rental wheelchair should be provided if needed.
    d. Technicians should be properly trained on all devices provided by the supplier with procedures to elevate issues back to the clinical team when issues or concerns are identified.

V. Documentation
    a. Maintain appropriate documentation, both service and medical, for the purpose of best practices.
    b. Provide sufficient documentation of the services provided as well as the amount of time spent performing the service.

c. Request payor to make the repair history of the device available to the supplier to make known the frequency of what and who has serviced the equipment.

VI. Quality assurance
   a. Collect all relative data regarding repairs by functional step. Intake, scheduling, repair time, travel time, documentation, and billing.
   b. Routinely summarize the above data to understand where opportunities for improvement exist and where roadblocks to quicker repair times and reduced costs exist.
   c. Routinely share data with stakeholders in the pursuit of continuous improvement, with referral sources to encourage partnership in pursuit of better processes, quality equipment, and with payors to educate on their role in supporting shorter repair cycles.

Preventative Maintenance and Repair

A preventative maintenance service should be introduced to the consumer at the time of the delivery/fitting of the mobility system. A separate session within a reasonable time period after delivery should be scheduled to go over expectations and training on the mobility device with the consumer. This can take place in-person or via phone or digital communication.

I. Suppliers should go over their specific company policies regarding maintenance and repairs with a leave behind written checklist and provide complete warranty information on the components including where this information can be found in the owner's manual and/or manufacturer's website.
II. It is imperative that all information and expectations discussed at the time of delivery is provided in written format for future references, including who to contact. Instructions regarding consumer responsibilities should be tailored to the level of experience and ability of the consumer.
III. Set a preventative maintenance appointment schedule per manufacturers recommendations as well as consideration of both the environment and consumer. It is recommended that manufacturers provide in their owner's manuals a clear set of expectations for both the consumer and the supplier to follow. Manufacturers should indicate the level of expertise required to perform various services. This can be in the form of a checklist or narrative; however, it is recommended that mobility device manufacturers develop a standardized format.
IV. Advise consumers on their Reasonable Useful Life (RUL) expectancy of components due to those factors listed above.

Preventative Maintenance Guidelines

The preventative maintenance of wheelchairs applies to the mechanical and electrical components of the chair as well as its seating:

I. Mechanical Components
   a. The function and performance of the wheelchair's casters, wheels, brakes, footrests, armrests, headrests, and backs.
   b. These items should be checked and replaced routinely as determined by their wear and use by the user to decrease failures.

II. Electrical Components
    a. The function and performance of the wheelchair's battery, joystick, controller, and other electronics.
    b. These items should be checked and replaced routinely whenever signs of decline or malfunction are found.
III. Drive Motors
    a. The function and performance of the drive motors of power wheelchairs should especially be monitored due to its importance for overall wheelchair function.
    b. Motors should be routinely checked, and any suspected issues should be addressed as soon as possible.
IV. Seat Actuators
    a. For users with seating functions in their wheelchair, seat actuators are another vital component that must be given specific attention.
    b. Actuators should be routinely checked, and any suspected issues should be addressed in a timely manner.
V. Inspection
    a. In addition to the above specified items the entire device should be inspected and tested for potential issues.

It is not expected that all consumers of CRT wheelchairs will be able to perform many of the service or maintenance requirements. CRT level power wheelchairs especially are highly technical in their design and include motors, high level electronics, alternative drive controls and seat actuators which require servicing by trained technicians. An individualized service plan can be created that considers the preventative maintenance schedule and the consumer's ability to complete these tasks.

Consumer Responsibilities:

During the repair and maintenance session scheduled after delivery, the consumer should be instructed on how to properly perform inspections as detailed in either the supplier's written instruction checklist or the manufacturer's owner's manual. When the experience and abilities exist, the consumer can be instructed to make minor repairs such as tire pressure and caster flutter. The frequency of these inspections and repairs and their reasoning should be clearly explained.

Provider Responsibilities:

- Follow manufacturer's recommended guidelines for preventative maintenance and tailor that to the user's experience, ability, environment, and usage.
- Establish a recommended inspection and service schedule that covers all brands of CRT wheelchairs sold based on manufacturer's recommendations and the supplier's experience. Provide this in a written form to the consumer at the time of the CRT delivery or written instructions on where to access the information electronically.
- Train all technicians and Rehabilitation Technology Suppliers (RTS) on the procedures for instructing inexperienced consumers on how to thoroughly inspect their wheelchairs for potential problems.

- Encourage consumers to adhere to recommended preventative service and inspections.

Payor Guidelines:

Payor changes to policy would improve repair times, reduce downtime of equipment, and reduce cost to the system.

1. Develop documentation requirements that are consistent across various payor groups. Currently CRT providers interface with several payor sources with differing policies and fee schedules.
2. Allow providers to repair the consumers mobility device prior to approval from the payor especially when the repair is imminent and a threat to health and function. Prior authorization can add anywhere from days to weeks to repair times. Payment would be made upon submission of designated documentation.
3. Reduce documentation and prior authorization requirements for service and replacement of wearable items such as upholstery, casters, forks, bearings, batteries, leg supports, arm supports that are expected to fail periodically.
4. Provide reimbursement for documented "preventative maintenance" work per manufacturer's guidelines.
5. Ensure access for a CRT appropriate short-term rental wheelchair when a repair is expected to take more than 1 day if the equipment is disabled or unsafe to utilize.

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