CARE CONSIDERATIONS CHECKLIST
LATE AMBULATORY STAGE

Parent Project Muscular Dystrophy
JOIN THE FIGHT. END DUCHENNE.

This checklist is intended for use by parents and caregivers of individuals with Duchenne muscular dystrophy to help you manage your child's care. Not all people with Duchenne will need to see a specialist in each medical area below. Talk with your child's neuromuscular specialist about any concerns and referrals.

At this stage, your child will likely have more trouble walking, getting up from the floor, and climbing stairs.

NEUROMUSCULAR CARE

Your neuromuscular specialist (NMS) is the lead doctor for your care, who specializes in muscle care. The NMS will help you and your family understand Duchenne and the right care for you. You should see the NMS about every 6 months.

- ☐ The NMS, along with the rehabilitation team, measures your function, strength, range of motion, posture, and positioning of arms and legs. They should use the same measures and tests during each visit in order to track your progress. This occurs every 6 months or as needed.
- ☐ Make sure you are up-to-date on all immunizations. This website has information on immunizations for individuals with Duchenne: **ParentProjectMD.org/Vaccinations.**
- ☐ Consider starting corticosteroids (steroids) before you start to lose muscle function or have difficulty walking; these are recommended lifelong.
- ☐ Tell your NMS about side effects your child experiences while on steroids.
- ☐ Never stop taking steroids abruptly.
- ☐ The NMS will send a summary of each visit to you, your primary care provider (PCP), and communicate with other providers as needed.

CARDIAC CARE

A cardiologist is a doctor who specializes in the heart who you will see every year.

- ☐ Your heart health should be evaluated every year using an electrocardiogram (ECG) and an echocardiogram or cardiac MRI (magnetic resonance image). These show your heart rate, rhythm, structure, and function.
- ☐ The cardiologist may require you to wear a Holter monitor for 24 hours. This is a device that shows your heart rate and rhythm over 24 hours.
- ☐ Start taking heart medications when cardiac tests show a decline in heart function or scarring of the heart muscle, or by age 10 even if all tests are normal. Cardiac medications should be continued lifelong.

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RESPIRATORY CARE

A pulmonologist is a doctor who specializes in the lungs who you will see every year.

- ☐ Have pulmonary function testing (PFT) at least once annually so your pulmonologist can track the strength of your muscles responsible for breathing over time.
- ☐ Ensure you receive the injectable flu vaccine every year and pneumococcal vaccine as recommended.
- ☐ Your pulmonologist may suggest manual or mechanical cough assist if your cough is weakening.
- ☐ Your pulmonologist may suggest a sleep study if you are showing signs and symptoms of shallow breathing, called hypoventilation, while sleeping.
- ☐ Depending on your sleep study results, your pulmonologist may suggest non-invasive ventilation to use during sleep.

REHABILITATION CARE

The rehabilitation team may include a physiatrist, physical therapist, occupational therapist, or speech-language pathologist. The NMS will work closely with your child's rehabilitation team on your child's physical assessments.

- ☐ See a physical therapist every 4-6 months for evaluation.
- ☐ Continue daily stretching routines and use recommended braces or corrective devices, also known as orthotic devices.
- ☐ Begin using assistive technology as needed.
- ☐ Speak to your rehabilitation team about pain and fracture prevention at each visit.
- ☐ See a speech therapist for speech and language concerns.

ORTHOPEDIC AND SURGICAL CARE

An orthopedic surgeon is a doctor who specializes in the bones, muscles, joints, tendons, and ligaments.

- ☐ Provider monitors for curvature of the spine, known as scoliosis, every year by X-ray or visual inspection.
- ☐ If your child begins to have ankle contractures (shortening of Achilles tendon) consider surgery or serial casting to maintain ambulation.
- ☐ Talk to your cardiologist and pulmonologist when considering any surgery.
- ☐ Talk with the anesthesiologist about safe and unsafe anesthesia before surgery. A list may be found at **ParentProjectMD.org/Surgery.**

ENDOCRINOLOGY AND BONE HEALTH CARE

An endocrinologist is a doctor who specializes in hormones, the chemicals in the body that influence puberty, growth, and bone health.

- ☐ Imaging tests to monitor the health of your spine and bones are recommended. The provider may use an X-ray of the spine from the side (a lateral X-ray) every 1-2 years and a DEXA scan (dual-energy X-ray absorptiometry) every 2-3 years.
- ☐ Have an annual blood test to measure vitamin D and calcium levels. Take vitamin D and calcium supplements as needed.
- ☐ Discuss the use of bisphosphonates to treat osteoporosis.
- ☐ See a bone health expert at the earliest sign of fracture.
- ☐ Provider measures standing height and weight every 6 months.
- ☐ Provider measures non-standing growth by measuring leg or arm length every 6 months.
- ☐ Provider monitors pubertal development every 6 months, starting at age 9. You may need testosterone therapy if you have not started puberty by age 14.

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GASTROINTESTINAL AND NUTRITIONAL CARE

A gastroenterologist is a doctor who specializes in the digestive system. A registered dietitian nutritionist (RDN) is an expert in food and nutrition. Your child may be referred to these types of providers to address issues with weight gain or loss, nutrition, and digestion.

- ☐ See a Registered Dietitian Nutritionist (RDN) at every clinic visit if appropriate.
- ☐ Review your fluid and diet history and develop a nutrition plan with the RDN if needed.
- ☐ Monitor weight and BMI at each visit.
- ☐ Have an assessment for problems with swallowing, acid reflux, digestion, and constipation at every visit. You may be referred to a gastroenterologist if needed.
- ☐ See a dentist every 6 months.

PSYCHOSOCIAL CARE

Psychosocial health (mental health and social well-being) is as important as physical health. Your child's multidisciplinary team should include a psychologist, social worker, and/or psychiatric nurse/advanced practice nurse.

- ☐ Discuss your and your family's mental health at each visit. Formal or informal mental health screenings can be completed by a provider.
- ☐ A psychologist can complete a comprehensive assessment of your development, learning, and behavior if needed. This is referred to as a neuropsychological evaluation.
- ☐ Review and update your special school plans or accommodations (such as an individual education plan or a 504 plan) as needed.

TRANSITIONS OF CARE

Planning for the future and learning to manage your own medical care is an important part of becoming an independent adult with Duchenne. This phase is referred to as transitioning.

- ☐ You should begin to have time with your providers separate from caregivers at every neuromuscular visit starting by age 12.
- ☐ Discuss plans for the future with your parents, and share with your teachers and neuromuscular team. Make sure you have the education and training in place to reach your goals.
- ☐ Stay involved with school activities and with friends.
- ☐ By age 13-14, start developing a written transition plan with your neuromuscular team. Review and update this plan annually. It should include a list of assistive services that you will need to be independent, a plan for who will provide these services, and how to pay for them. Get help from a social worker or care coordinator if necessary.

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EMERGENCY CARE

Emergency room staff may not have experience caring for people with Duchenne, so it is helpful to bring emergency information with you that is specific to Duchenne. This includes information on anesthesia, fracture management, oxygen, steroid stress dosing, and more. PPMD has this information available on their website (**ParentProjectMD.org/Emergency**) to print or it is available within their free Apple or Android App (**ParentProjectMD.org/App**).

- ☐ Have emergency information, either on a card or a mobile app, with you at all times.
- ☐ Have a summary of your last NMS visit, provided by your NMS, with you at all times. These will include the diagnosis, all medications, recent test results (including heart and lung function), and any reoccurring medical problems you may have.
- ☐ Take any equipment that you use and your medications with you to the emergency room or hospital.
- ☐ Contact your NMS if you need to go to the emergency room or hospital for any reason.
- ☐ If you are taking steroids, have a copy of the PJ Nicholoff Steroid Protocol (available at: **ParentProjectMD.org/PJ**) which provides information on preventing adrenal insufficiency and indications for stress dosing of steroids.

PRIMARY CARE

Primary care providers (PCPs) are doctors, nurse practitioners, or physician assistants who specialize in pediatrics, family, or internal medicine. This provider should work closely with your NMS.

- ☐ Continue seeing your primary care provider for routine visits, including well checks, minor illnesses, and immunizations.

INFORMATION AND SUPPORT

If you have not already done so, it may be helpful to get in touch with an organization dedicated to helping individuals with Duchenne and their families.

– Parent Project Muscular Dystrophy (PPMD): **ParentProjectMD.org**

NOTES

The information in these checklists are based on the 2018 care considerations for Duchenne muscular dystrophy. This set of 3 articles was published in the Lancet Neurology and funded by the Centers for Disease Control and Prevention. Learn more here: **https://www.cdc.gov/ncbddd/musculardystrophy/care-considerations.html**