## \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

### 117th CONGRESS

1st Session

S. RES. XXX

Designating September 15, 2021 as "International Myotonic Dystrophy Awareness Day" and supporting the goals and ideals of International Myotonic Dystrophy Awareness Day.

### IN THE SENATE OF THE UNITED STATES

## **INSERT DATE**

SENATE RESOLUTION SPONSOR NAME (for herself/himself, SENATOR XX, SENATOR XX) submitted the following resolution; which was considered and agreed to

### **RESOLUTION**

Designating September 15, 2021 as "International Myotonic Dystrophy Awareness Day" and supporting the goals and ideals of International Myotonic Dystrophy Awareness Day.

Whereas myotonic dystrophy is a rare, multi-systemic, inherited disease that affects approximately 1 in **2,100 people or 150,000 individuals in the United States.** <sup>1</sup> Whereas there are well over a million people living with DM globally, yet thousands of people do not know they have the disease and are in need of care.

Whereas myotonic dystrophy is the most common form of adult muscular dystrophy and considered the most variable of all known conditions. <sup>2</sup> The symptoms become more severe with each generation (known as anticipation), yet there is currently no cure and there are no approved treatments. <sup>74-89</sup>

Whereas the disease is caused by a mutation in the **DMPK gene, resulting in myotonic dystrophy type one, and the CNBP gene, resulting in myotonic dystrophy type two**. These mutations **prevent the genes from carrying out their functions properly**, impacting multiple body systems. <sup>3-31</sup>

Whereas the genetic mutation is an autosomal dominant mutation, where one copy of the altered gene is sufficient to cause the disorder. As a result, affected individuals have a 50% chance of passing on the

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mutated gene to their children. A child is equally likely to have inherited the mutated gene from either parent. If both parents do not have the disease, their children cannot inherit it.  $^{8}$ 

Whereas through this inherited genetic anomaly, individuals with myotonic dystrophy experience varied and complex symptoms, from skeletal muscle problems <sup>91-112</sup>, to heart <sup>113-126</sup>, breathing <sup>127-150</sup>, digestive <sup>151-166</sup>, hormonal <sup>198-219</sup>, speech and swallowing <sup>246</sup>, diabetic <sup>247</sup>, immune <sup>220-237</sup>, excessive daytime sleepiness <sup>248</sup>, early cataracts and vision <sup>238-245</sup>, and cognitive difficulties <sup>167-197</sup>.

Whereas myotonic dystrophy is a highly variable and complicated disorder. The systems affected, the severity of symptoms, and the age of onset of those symptoms vary greatly between individuals, even in the same family. In general, the younger an individual is when symptoms first appear, the more severe symptoms are likely to be.

Whereas a complete diagnostic evaluation, which includes family history, physical examination, and medical tests, is typically required for a presumptive diagnosis of myotonic dystrophy. The presence of the disorder can then be confirmed by genetic testing. Prenatal testing, where the DNA of the fetus is checked for the presence of the myotonic dystrophy mutation, is also available. Despite the availability of simple genetic tests, misdiagnoses persist for decades. <sup>249-250</sup>

Whereas delays in diagnosing myotonic dystrophy are common. This is usually because of the lack of familiarity with the disease on the part of clinicians and that more common diseases with symptoms that mimic myotonic dystrophy must typically first be ruled out before this disorder is considered.

Whereas there are currently no Food and Drug Administration approved treatments for myotonic dystrophy, however, many biopharmaceutical companies are leading promising trials which may lead to treatments for the disease. <sup>251</sup>

Whereas the Myotonic Dystrophy Foundation was founded in 2007 with a mission to enhance the quality of life of people living with myotonic dystrophy and accelerate research focused on finding treatments and a cure. It is the leading global advocate helping patients and families navigate the myotonic dystrophy disease process and is often the first resource contacted by newly diagnosed patients, their families, their social workers and their physicians around the world.

Whereas in 2014, Congress reauthorized the MD-CARE Act which has increased muscular dystrophy research funding and public health surveillance activities including for myotonic dystrophy. Further this law funds the University of Rochester Medical Center's Paul D. Wellstone Muscular Dystrophy Cooperative Research Center which is an internationally recognized research program.

Whereas on September 15, 2016, the Myotonic Dystrophy Foundation hosted the first ever myotonic dystrophy focused Patient-Focused Drug Development meeting with FDA senior leadership that raised awareness of patient and caregiver perspectives as part of an initiative to drive biopharmaceutical discovery. This led to the publication and delivery to the FDA of the *Myotonic Dystrophy Voice of the Patient* report on April 14, 2017.<sup>252</sup>

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Whereas in September 2017, recognizing the seriousness of the disease and its especially disabling impact on persons with congenital myotonic dystrophy, the Social Security Administration added the congenital form of the disease to the Compassionate Allowance Program which allows individuals to quickly qualify for disability benefits including health insurance coverage.

Whereas the United States Senate added myotonic dystrophy to list of eligible conditions for research funding under the Department of Defense Peer Reviewed Medical Research Program in 2018, which has resulted in over \$6 million in new research awards.

Whereas myotonic dystrophy research funding supported by the National Institutes of Health has remained flat over the past decade with the agency estimating awarding \$11 million in research grants in fiscal year 2021.

Whereas increased federal funding for myotonic dystrophy research will improve health outcomes, reduce disability, and increase life expectancy for individuals living with disease, and holds great promise for helping individuals with similar genetic diseases like Fragile X syndrome and Huntington's disease.

Resolved, That the Senate—

- (1) designates September 15, 2021 as "International Myotonic Dystrophy Awareness Day";
- (2) supports the goals and ideals of International Myotonic Dystrophy Awareness Day including;
- (3) committing to promoting and advancing the health, well-being, and inherent dignity of all children and adults with myotonic dystrophy;
- (4) supporting the advancement of scientific and medical myotonic dystrophy research at the National Institutes of Health and as part of the Department of Defense Peer Reviewed Medical Research Program;
- (5) fostering biopharmaceutical innovation that will lead to FDA approved treatments and eventually a cure for myotonic dystrophy;
- (6) advancing programs and policies that assist individuals disabled by myotonic dystrophy and their caregivers; and
- (6) encouraging awareness and education regarding myotonic dystrophy among patients, caregivers, clinicians, and researchers.

# MEDICAL REFERENCES & CITATIONS FOR MYOTONIC DYSTROPHY

# DISEASE MECHANISM

#### Prevalence

- NicholasE. Johnson, RussellJ. Butterfield, Katie Mayne, Tara Newcomb, Carina Imburgia, Diane Dunn, Brett Duval, Marcia L. Feldkamp, Robert B. Weiss. Population-Based Prevalence of Myotonic Dystrophy Type 1 Using Genetic Analysis of Statewide Blood Screening Program, Neurology Feb 2021, 96 (7) e1045-e1053, 2021.
- 2. National Organization for Rare Disorders. (2017). *Myotonic dystrophy*. Retrieved May 5, 2021, from https://rarediseases.org/rare-diseases/dystrophy-myotonic/

## Causes of DM

- 3. Cho, D.H.; Tapscott, S.J. Myotonic dystrophy: emerging mechanisms for DM1 and DM2. *Biochim Biophys Acta* Feb 1772:195-204, 2007.
- 4. Ranum L.P.; Cooper T.A. RNA-mediated neuromuscular disorders. *Annu Rev Neurosci* 29:259-77, 2006.
- 5. Machuca-Tzili L; Brook J.D.; Hilton-Jones D Clinical and molecular aspects of the myotonic dystrophies: a review. *Muscle Nerve* Jul 32:1-18, 2005.
- 6. Harper PS.; van Engelen B.G.; Eymard B.; Rogers M.; Wilcox D. (2004) 99th ENMC international workshop: myotonic dystrophy: present management, future therapy . 9-11 November 2001, Naarden, The Netherlands. Oxford University Press, Oxford UK.
- 7. Day J.W.; Ranum L.P. RNA pathogenesis of the myotonic dystrophies. *Neuromuscul Disord* Jan 15:5-16, 2005.
- 8. Meola G. Clinical aspects, molecular pathomechanisms and management of myotonic dystrophies. *Acta Myol.* 2013 Dec;32(3):154-65. PMID: 24803843; PMCID: PMC4006279.
- 9. Ranum L.P.W.; Day J.W. Myotonic Dystrophy: RNA Pathogenesis Comes into Focus. *American Journal of Human Genetics* 74: 793-804, 2004.
- 10. Harper P.S. (2001) Myotonic Dystrophy, 3rd ed. W.B. Saunders, London.

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- 11. Korade-Mirnics Z.; Babitzke P.; Hoffman E. Myotonic dystrophy: molecular windows on a complexetiology. *Nucleic Acids Res* Mar 15 26:1363-8, 1998.
- 12. Roses AD (1997) Myotonic dystrophy. In: Rosenberg RN, Prusiner SB, Dimauro S, Barchi RL (eds) The Molecular and Genetic Basis of Neurological Disease, 2 ed. Butterworth-Heinemann, Stoneham, MA.
- 13. Harris S.; Moncrieff C.; Johnson K. Myotonic dystrophy: will the real gene please step forward! *Hum MolGenet* 5 Spec 1417-23, 1996.
- 14. Pizzuti A.; Friedman D.L.; Caskey C.T. The myotonic dystrophy gene. *Arch. Neurol* 50: 1173-9, 1993.
- 15. Brook J.D.; McCurrach M.E.; Harley H.G.; Buckler A.J.; Church D.; Aburatani H.; Hunter K.; Stanton V.P.; Thirion J.-P.; Hudson T.; Sohn R.; Zemelman B.; Snell R.G.; Rundle S.A.; Crow S.; Davies J.; Shelbourne P.; Buxton J.; Jones C.; Juvonen V.; Johnson K.; Harper P.S., Shaw D. J.; Housman D.E. Molecular basis of myotonic dystrophy: expansion of a trinucleotide (CTG) repeat at the 3-prime end of a transcript encoding a protein kinase family member. *Cell* 68: 799-808, 1992.
- 16. Buxton J.; Shelbourne P.; Davies J.; Jones C.; Van Tongeren T.; Aslanidis C.; de Jong P.; Jansen G.; Anvret M.; Riley B.; Williamson R.; Johnson K. Detection of an unstable fragment of DNA specific to individuals withmyotonic dystrophy. *Nature* 355: 547-8, 1992.
- 17. Fu Y.-H.; Pizzuti A.; Fenwick R.G., Jr.; King J.; Rajnarayan S.; Dunne P.W.; Dubel J.; Nasser G. A.; Ashizawa T.; de Jong P.; Wieringa B.; Korneluk R.; Perryman M.B.; Epstein H.F.; Caskey C. T. An unstable triplet repeat in a gene related to myotonic muscular dystrophy. *Science* 255: 1256-8, 1992.
- 18. Mahadevan M.; Tsilfidis C.; Sabourin L.; Shutler G.; Amemiya C.; Jansen G.; Neville C.; Narang M.; Barcelo J.; O'Hoy K.; Leblond S.; Earle-Macdonald J.; de Jong P.J.; Wieringa B.; Korneluk R.G. Myotonic dystrophy mutation: an unstable CTG repeat in the 3-prime untranslated region of the gene. *Science* 255: 1253-5,1992.

## Causes of DM2

- 19. Ranum L.P.; Cooper T.A. RNA-mediated neuromuscular disorders. *Annu Rev Neurosci* 29:259-77, 2006.Udd B.; Meola G.; Krahe R.; Thornton C.; Ranum L.P.; Bassez G.; Kress W.; Schoser B.; Moxley R. 140<sup>th</sup> ENMC International Workshop: Myotonic Dystrophy DM2/PROMM and other myotonic dystrophieswith guidelines on management. *Neuromuscul Disord* Jun 16:403-13, 2006.
- 20. Day J.W.; Ranum L.P. **RNA** pathogenesis of the myotonic dystrophies. *Neuromuscul Disord* Jan 15:5-16, 2005.
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- 21. Machuca-Tzili L.; Brook J.D.; Hilton-Jones D. Clinical and molecular aspects of the myotonic dystrophies: a review. *Muscle Nerve* Jul 32:1-18, 2005.
- 22. Meola G.; Moxley R.T. 3rd. Myotonic dystrophy type 2 and related myotonic disorders. *J Neurol* Oct 251:1173-82, 2004.
- 23. Ranum L.P.W., and Day J.W. Myotonic Dystrophy: RNA Pathogenesis Comes into Focus. *American Journal of Human Genetics* 74: 793-804, 2004.
- 24. Day J.W.; Ricker K.; Jacobsen J.F.; Rasmussen L.J.; Dick K.A.; Kress W.; Schneider C.; Koch M.C.; Beilman G.J.; Harrison A.R.; Dalton J.C.; Ranum L.P.; Myotonic dystrophy type 2: molecular, diagnostic and clinical spectrum. *Neurology* Feb 25 60:657-64, 2003.
- 25. Finsterer J. **Myotonic dystrophy type 2.** *Eur J Neural* Sep 9:441-7, 2002. Harper P.S. (2001) **Myotonic Dystrophy**, 3rd ed. W.B.

Saunders, London.

- 26. Liquori C.L.; Ricker K.; Moseley M.L.; Jacobsen J.F.; Kress W.; Naylor S.L.; Day J.W.; Ranum L.P. Myotonic dystrophy type 2 caused by a CCTG expansion in intron 1 of *ZNF9*. *Science* 293:864-7, 2001.
- 27. Larkin K, Fardaei M. Myotonic dystrophy--a multigene disorder. *Brain Res Bull* Oct-Nov 1 56:389-95, 2001.
- 28. Day J.W.; Roel of R.; Leroy B.; Pech I.; Benzow K.; Ranum L.P. Clinical and genetic characteristics of a five-generation family with a novel form of myotonic dystrophy (DM2). Neuromuscul Disord 9:19-27, 1999.
- 29. Udd B.; Krahe R.; Wallgren-Pettersson C.; Falck B.; Kalimo H. Proximal myotonic dystrophy--a family with autosomal dominant muscular dystrophy, cataracts, hearing loss and hypogonadism: heterogeneity of proximal myotonic syndromes? *Neuromuscul Disord* 7:217-28.1997.
- 30. Meola G.; Sansone V.; Radice S.; Skradski S.; Ptacek L. A family with an unusual myotonic and myopathicphenotype and no CTG expansion (proximal myotonic myopathy syndrome): a challenge for future molecular studies. *Neuromuscul Disord* 6:143-50, 1996.
- **31.** Thornton, C.A.; Griggs, R.C.; Moxley, R.T.III. **Myotonic dystrophy with no trinucleotide repeat expansion.**

Ann. Neurol 35: 269-72, 1994.

### RNA Pathogenesis

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- 32. Wang G.-S.; Kearney D.L.; De Biasi M.; Taffet G.; Cooper T.A. Elevation of RNA-binding protein CUGBP1 is an early event in an inducible heart-specific mouse model of myotonic dystrophy. J. Clin. Invest 117:2802-11, 2007.
- 33. Wheeler T.M.; Lueck J.D.; Swanson M.S.; Dirksen R.T.; Thornton C.A. Correction of ClC-1 splicing eliminates chloride channelopathy and myotonia in mouse models of myotonic dystrophy. *J Clin Invest*117:3952-7, 2007.
- 34. Smith K.P.; Byron M.; Johnson C.; Xing Y.; Lawrence J.B. Defining early steps in mRNA transport: mutant mRNA in myotonic dystrophy type I is blocked at entry into SC-35 domains. *J Cell Biol Sep* 10 178:951- 64, 2007.
- 35. Yuan Y.; Compton S.A.; Sobczak K.; Stenberg M.G.; Thornton C.A.;, Griffith J.D.; Swanson M.S. Muscleblind- like 1 interacts with RNA hairpins in splicing target and pathogenic RNAs. *Nucleic Acids Res* 35:5474-86,2007.
- 36. Paul S.; Dansithong W.; Kim D.; Rossi J.; Webster N.J., Comai L.; Reddy S. Interaction of muscleblind, CUG- BP1 and hnRNP H proteins in DM1-associated aberrant IR splicing. *EMBO J* Sep 20 25:4271-83, 2006.
- 37. Timchenko, L. Reversal of fortune. *Nature Genet* 38: 976-7, 2006 Kanadia R.N.; Shin J.; Yuan Y.; Beattie S.G.; Wheeler T.M.; Thornton C.A.; Swanson M.S. Reversal of RNA missplicing and myotonia after musclebling overexpression in a mouse poly(CUG) model for myotonic dystrophy. *Proc Natl Acad Sci USA* Aug 1 103:11748-53, 2006.
- 38. Mahadevan M.S.; Yadava R.S.; Yu Q.; Balijepalli S.; Frenzel-McCardell C.D.; Bourne T.D.; Phillips L.H. Reversible model of RNA toxicity and cardiac conduction defects in myotonic dystrophy. *Nature Genet* 38: 1066-70, 2006.
- 39. Machuca-Tzili L.; Thorpe H.; Robinson T.E.; Sewry C.; Brook J.D. Flies deficient in muscleblind protein model features of myotonic dystrophy with altered splice forms of **Z**-band associated transcripts. *Hum.Genet* 120: 487-99, 2006.
- 40. Dansithong W.; Paul S.; Comai L.; Reddy S. MBNL1 is the Primary Determinant of Focus Formation and Aberrant Insulin Receptor Splicing in DM1. *JBC* 280: 5773-80, 2005.
- 41. Jiang H.; Mankodi A.; Swanson M.S.; Moxley R.T.; Thornton C.A. Myotonic dystrophy type 1 is associated with nuclear foci of mutant RNA, sequestration of muscleblind proteins and deregulated alternative splicing in neurons. *Hum. Molec.* Genet 13: 3079-88, 2004.
- 42. Kanadia R.N.; Johnstone K.A.; Mankodi A.; Lungu C.; Thornton C.A.; Esson D.; Timmers A .M.; Hauswirth W.W.; Swanson M.S. A muscleblind knockout model for myotonic dystrophy. *Science* 302: 1978-80, 2003.

- 43. Fardaei M.; Rogers M.T.; Thorpe H.M.; Larkin K.; Hamshere M.G.; Harper P.S.; Brook J.D. Three proteins, MBNL, MBLL and MBXL, co-localize in vivo with nuclear foci of expanded-repeat transcripts in DM1and DM2 cells. *Hum Mol Genet* Apr 1 11:805-14, 2002.
- 44. Mankodi A.; Urbinati C.R.; Yuan Q.-P.; Moxley R.T.; Sansone V.; Krym M.; Henderson D.; Schalling M.; Swanson M.S.; Thornton C.A. Muscleblind localizes to nuclear foci of aberrant RNA in myotonic dystrophy types 1 and 2. Hum. *Molec. Genet* 10: 2165-70, 2001.
- 45. Ladd A.N.; Charlet-B. N.; Cooper T.A. The CELF family of RNA binding proteins is implicated in cell- specific and developmentally regulated alternative splicing.

  Molec. Cell. Biol 21: 1285-96, 2001.
- 46. Miller J.W.; Urbinati C.R.; Teng-umnuay P.; Stenberg M.G., Byrne B.J.; Thornton C.A.; Swanson M.S. Recruitment of human muscleblind proteins to CUG(n) expansions associated with myotonic dystrophy. *EMBO J* 19: 4439-48, 2000.
- 47. Mankodi A.; Logigian E.; Callahan L.; McClain C.; White R.; Henderson D.; Krym M.; Thornton C.A. Myotonic dystrophy in transgenic mice expressing an expanded CUG repeat. *Science* 289:1769-72, 2000.
- 48. Timchenko, L.T. Myotonic dystrophy: the role of RNA CUG triplet repeats. *Am. J. Hum. Genet* 64: 360-4,1999.
- 49. Philips A.V.; Timchenko L.T.; Cooper T.A. Disruption of splicing regulated by a CUG-binding protein in myotopic dystrophy. *Science* 280: 737-41, 1998.
- 50. Davis B.M.; McCurrach M.E.; Taneja K.L.; Singer R.H.; Housman D.E. Expansion of CUG trinucleotide repeat in the 3' untranslated region of myotonic dystrophy protein kinase transcripts results in nuclearretention of transcripts. *Proceedings of the National Academy of Sciences* 94: 7388-93, 1997.
- 51. Roberts R.; Timchenko N.A.; Miller J.W.; Reddy S.; Caskey C.T.; Swanson M.S.; Timchenko L.T. Altered phosphorylation and intracellular distribution of a (CUG)n triplet repeat RNA-binding protein in patients with myotonic dystrophy and in myotonin protein kinase knockout mice. *Proc. Nat. Acad. Sci*94: 13221-6, 1997.
- 52. Timchenko V.T.; Miller J.W.; Timchenko N.A.; DeVore D.R.; Datar K.V.; Lin L.; Roberts R.; Caskey C.T.; Swanson M.S. Identification of a (CUG)n triplet repeat RNA-binding protein and its expression in myotonic dystrophy. *Nucleic Acids. Res* 24: 4407-14, 1996.
- 53. Wang J.; Pegoraro E.; Menegazzo E.; Gennarelli M.; Hoop R.C.; Angelini C.; Hoffman E.P. Myotonic dystrophy: evidence for a possible dominant-negative RNA mutation. *Hum. Molec. Genet* 4: 599-606, 1995.
- 54. Fu Y-H.; Friedman D.L.; Richards S.; Pearlman J.A.; Gibbs R.A.; Pizzuti A.; Ashizawa T.;
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

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- Perryman M.B.; Scarlato G.; Fenwick R.G.Jr.; Caskey C.T. Decreased expression of myotonin protein kinase messenger RNA and protein in adult form of myotonic dystrophy. *Science* 260: 235-8, 1993.
- 55. Hull K.L. Jr; Roses A.D. Stoichiometry of sodium and potassium transport in erythrocytes from patients with myotonic muscular dystrophy. *J Physiol* Jan 254:169-81, 1976.

#### Somatic Mosaicism

- 56. Foiry L, Dong L, Savouret C, Hubert L, Riele HT, Junien C, Gourdon G Msh3 is a limiting factor in the formation of intergenerational CTG expansions in DM1 transgenic mice. *Hum Genet* 119: 520-6, 2006.
- 57. Fortune MT, Vassilopoulos C, Coolbaugh MI, Siciliano MJ, Monckton DG. Dramatic, expansion-biased, age-dependent, tissue-specific somatic mosaicism in a transgenic mouse model of triplet repeat instability. *Hum Mol Genet* 9: 439-45, 2000.
- 58. Gomes-Pereira M, Fortune MT, Ingram L, McAbney JP, Monckton DG. Pms2 is a genetic enhancer of trinucleotide CAG.CTG repeat somatic mosaicism: implications for the mechanism of triplet repeatexpansion. Hum Mol Genet 13: 1815-25, 2004.
- 59. Martorell L, Martinez JM, Carey N, Johnson K, Baiget M. Comparison of CTG repeat length expansion and clinical progression of myotonic dystrophy over a five year period. *J Med Genet* 32: 593-596, 1995.
- 60. Martorell L. Monckton DG, Gamez J, Baiget M. Complex patterns of male germline instability and somatic mosaicism in myotonic dystrophy type 1. Eur J Hum Genet 8: 423-30, 2000.
- 61. Monckton DG, Wong LJC, Ashizawa T, Caskey CT. Somatic mosaicism, germline expansions, germline reversions and intergenerational reductions in myotonic dystrophy males: small pool PCR analyses. *Hum Mol Genet* 4: 1-8, 1995.
- 62. van den Broek WJ, Nelen MR, Wansink DG, Coerwinkel MM, te Riele H, Groenen PJ, Wieringa B. Somaticexpansion behaviour of the (CTG)n repeat in myotonic dystrophy knock-in mice is differentially affected by Msh3 and Msh6 mismatch-repair proteins.

  Hum Mol Genet 11: 191-8, 2002.
- 63. Savouret C.; Brisson E.; Essers J.;, Kanaar R.; Pastink A.; te Riele H.; Junien C.; Gourdon G. CTG repeatinstability and size variation timing in DNA repair-deficient mice. *EMBO J* May 1 22:2264-73, 2003.
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*
  MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th
  as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- 64. Khajavi M.; Tari A. M.; Patel N. B.; Tsuji K.; Siwak D.R.; Meistrich M.L.; Terry N.H.A.; Ashizawa T. 'Mitotic drive' of expanded CTG repeats in myotonic dystrophy type 1 (DM1). Hum. Molec. Genet 10: 855-63,2001.
- 65. Gomes-Pereira M.; Fortune M.T.; Monckton D.G. Mouse tissue culture models of unstable triplet repeats: in vitro selection for larger alleles, mutational expansion bias and tissue specificity, but no associationwith cell division rates. *Hum. Molec. Genet* 10: 845-54, 2001.
- 66. Martorell L.; Monckton D.G.; Gamez J.; Johnson, K.J.; Gich I.; Lopez de Munain A.; Baiget M. Progression of somatic CTG repeat length heterogeneity in the blood cells of myotonic dystrophy patients. *Hum.Molec. Genet* 7: 307-12, 1998.
- 67. Lia A.-S.; Seznec H.; Hofmann-Radvanyi H.; Radvanyi F; Duros C.; Saquet C.; Blanche M.; Junien C.; Gourdon G. Somatic instability of the CTG repeat in mice transgenic for the myotonic dystrophy region is
- 68. age dependent but not correlated to the relative intertissue transcription levels and proliferativecapacities. *Hum. Molec. Genet* 7: 1285-91, 1998.
- 69. Wong L.J.; Ashizawa T.; Monckton D.G.; Caskey C.T.; Richards C.S. Somatic heterogeneity of the CTG repeat in myotonic dystrophy is age and size dependent.

  Am J Hum Genet Jan 56:114-22, 1995.
- 70. López de Munain A.; Cobo A.M.; Huguet E.; Marti Massó J.F.; Johnson K.; Baiget M. CTG trinucleotide repeat variability in identical twins with myotonic dystrophy. *Ann Neurol* Mar 35:374-5, 1994.
- 71. Thornton CA, Johnson K, Moxley RT 3rd. Myotonic dystrophy patients have larger CTG expansions inskeletal muscle than in leukocytes. *Ann Neurol* Jan 35:104-7, 1994.
- 72. Lavedan C.; Hofmann-Radvanyi H.; Shelbourne P.; Rabes J.-P.; Duros C.; Savoy D.; Dehaupas I.; Luce S.; Johnson K.; Junien C. Myotonic dystrophy: size- and sexdependent dynamics of CTG meioticinstability, and somatic mosaicism. *Am. J. Hum. Genet* 52: 875-83, 1993.
- 73. Anvret M., Ahlberg G.; Grandell U.; Hedberg B.; Johnson K.; Edstrom L. Larger expansions of the CTG repeat in muscle compared to lymphocytes from patients with myotonic dystrophy. *Hum. Molec. Genet*2: 1397-400, 1993.
- 74. Ashizawa T.; Dubel J.R.; Harati Y. **Somatic instability of CTG repeat in myotonic dystrophy.** *Neurology* Dec 43:2674-8, 1993.

## Anticipation

- 75. Yang J.; Freudenreich C.H. Haploinsufficiency of yeast FEN1 causes instability of expanded CAG/CTG tracts in a length-dependent manner. *Gene* May 15 393:110-5, 2007.
- 76. Dean N.L.; Loredo-Osti J.C.; Fujiwara T.M.; Morgan K.; Tan S.L.; Naumova A.K.; Ao A. Transmission ratio distortion in the myotonic dystrophy locus in human preimplantation embryos. *Eur J Hum Genet* 14:299-306, 2006
- 77. Savouret C, Garcia-C, Megret J, te Riele H, Junien C, Gourdon G. MSH2-dependent germinal CTG repeat expansions are produced continuously in spermatogonia from DM1 transgenic mice. *Mol Cell Biol* 2004Jan 24:629-37, 2004.
- 78. De Temmerman N.; Sermon K.; Seneca S.; De Rycke M.; Hilven P.; Lissens W.; Van Steirteghem A.; Liebaers I. Intergenerational instability of the expanded CTG repeat in the *DMPK* gene: studies in human gametes and preimplantation embryos. *Am Hum Genet* Aug 75:325-9, 2004.
- 79. Martorell L.; Monckton D.G.; Sanchez A.; Lopez de Munain A.; Baiget M. Frequency and stability of the myotonic dystrophy type 1 premutation. *Neurology* 56: 328-35, 2001.
- 80. Seznec H.; Lia-Baldini A.-S.; Duros, C.; Fouquet C.; Lacroix C.; Hofmann-Radvanyi H.; Junien C.; Gourdon G.Transgenic mice carrying large human genomic sequences with expanded CTG repeat mimic closely the DM CTG repeat intergenerational and somatic instability. Hum. Molec. Genet 9: 1185-94, 2000.
- 81. Cohen H.; Sears D.D.; Zenvirth D.; Hieter P; Simchen G. Increased instability of human CTG repeat tracts on yeast artificial chromosomes during gametogenesis. *Mol Cell Biol* Jun 19:4153-8, 1999.
- 82. Simmons Z.; Thornton C.A.; Seltzer W.K.; Richards C.S. Relative stability of a minimal CTG repeat expansion in a large kindred with myotonic dystrophy. *Neurology* 50: 1501-4, 1998. Magee, A.C.; Hughes, A.E. Segregation distortion in myotonic dystrophy. *J. Med. Genet* 35:1045-6, 1998.
- 83. Gourdon G.; Radvanyi F.; Lia A.-S.; Duros C.; Blanche M.; Abitbol M.; Junien C.; Hofmann-Radvanyi H. Moderate intergenerational and somatic instability of a 55-CTG repeat in transgenic mice. *NatureGenet* 15: 190-2, 1997.
- 84. Leeflang, E.P.; McPeek, M.S.; Arnheim, N. Analysis of meiotic segregation, using singlesperm typing: meiotic drive at the myotonic dystrophy locus. *Am. J. Hum. Genet* 59: 896-904, 1996.
- 85. Jansen G.; Willems P.; Coerwinkel M.; Nillesen W.; Smeets H.; Vits L.; Höweler C.; Brunner H.; Wieringa B. Gonosomal mosaicism in myotonic dystrophy patients: involvement of mitotic events in (CTG)nrepeat variation and selection against
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

  MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- extreme expansion in sperm. Am J Hum Genet Apr 54:575-85,1994.
- **86.** Jansen G.; Willems P.; Coerwinkel M.; Nillesen W.; Smeets H.; Vits L.; Howeler C.; Brunner H.; WieringaB. **Gonosomal mosaicism in myotonic dystrophy patients:** involvement of mitotic events in (CTG)n repeat variation and selection against extreme expansion in sperm. *Am. J. Hum. Genet* 54: 575-85,1994.
- 87. Abeliovich D, Lerer I, Pashut-Lavon I, Shmueli E, Raas-Rothschild A, Frydman M. **Negative** expansion of themyotonic dystrophy unstable sequence. *Am J Hum Genet* Jun 52:1175-81, 1993.
- 88. Lavedan C, Hofmann-Radvanyi H, Shelbourne P, Rabes JP, Duros C, Savoy D, Dehaupas I, Luce S, JohnsonK, Junien C. Myotonic dystrophy: size- and sex-dependent dynamics of CTG meiotic instability, and somatic mosaicism. *Am J Hum Genet* May 52:875-83, 1993.
- 89. Sutherland G.R.; Richards R.I. Anticipation legitimized: unstable DNA to the rescue. *Am J Hum Genet* Jul 51:7-9, 1992.
- 90. Harper P.S.; Harley H.G.; Reardon W.; Shaw D.J. Anticipation in myotonic dystrophy: new light on an old problem. *Am J Hum Genet* 1992 Jul 51:10-6. Erratum in: Am J Hum Genet Oct 51:942, 1992.

# MULTISYSTEMIC FEATURES

Skeletal Muscle

- 91. Benders A.A., Timmermans J.A., Oosterhof A., Ter Laak H.J., van Kuppevelt T.H., Wevers R.A., Veerkamp
  - J.H. Deficiency of Na+/K(+)-ATPase and sarcoplasmic reticulum Ca(2+)-ATPase in skeletal muscle and cultured muscle cells of myotonic dystrophy patients. *Biochem J* Jul 1 293:269-74, 1993.
- 92. Benders A.A.G.M., Groenen P.J.T.A., Oerlmans F.T.J.J., Veerkamp J.H., Wieringa B. Myotonic dystrophy protein kinase is involved in the modulation of the Ca(2+) homeostasis in skeletal muscle cells. *J. Clin.Invest* 100: 1440-7, 1997.
- Casanova G., Jerusalem F. Myopathology of myotonic dystrophy: a morphometric study. Acta Neuropath
   (Berlin) 45: 213-40, 1979.
- 94. de Swart B.J., van Engelen B.G., van de Kerkhof J.P., Maassen B.A. **Myotonia and** flaccid dysarthria in patients with adult onset myotonic dystrophy. *J Neurol*
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

  MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- Neurosurg Psychiatry 75:1480-2, 2004.
- 95. Drachman D. B., Fambrough D. M. Are muscle fibers denervated in myotonic dystrophy? *Arch. Neurol* 33: 485-8, 1976.
- 96. Dubowitz Z. (1995) Muscle Disorders in Childhood, 2 ed. W.B. Saunders Co, London.
- 97. Kalkman J.S., Schillings M.L., van der Werf S.P., Padberg G.W., Zwarts M.J., van Engelen B.G., Bleijenberg G. Experienced fatigue in facioscapulohumeral dystrophy, myotonic dystrophy, and HMSN-I. *J NeurolNeurosurg Psychiatry* 76:1406-9, 2005.
- 98. Kurihara T. New Classification and Treatment for Myotonic Disorders. *Internal Medicine* 44: 1027-32, 2005.
- 99. Logigian E.L., Ciafaloni E., Quinn L.C., Dilek N., Pandya S., Moxley R.T. 3rd, Thornton C.A. Severity, type, and distribution of myotonic discharges are different in type 1 and type 2 myotonic dystrophy. *MuscleNerve* Apr 35:479-85, 2007.
- 100. Logigian E.L., Blood C.L., Dilek N., Martens W.B., Moxley R.T.4th, Wiegner A.W., Thornton C.A., Moxley R.T.3rd. Quantitative analysis of the "warm-up" phenomenon in myotonic dystrophy type 1. *Muscle Nerve* 32:35-42, 2005.
- 101. Logigian E.L., Moxley R.T., IV, Blood C.L., Barbieri C.A., Martens W.B., Wiegner A.W., Thornton C.A., Moxley R.T.,3rd. Leukocyte CTG repeat length correlates with severity of myotonia in myotonic dystrophy type 1. *Neurology* 62: 1081-9, 2004.
- 102. Lovell M.E., Morcuende J.A. Neuromuscular disease as the cause of late clubfoot relapses: report of 4 cases. *Jowa Orthop J* 27:82-4, 2007.
- 103. Lueck J.D., Mankodi A., Swanson M.S., Thornton C.A., Dirksen R.T. Muscle chloride channel dysfunction in two mouse models of myotonic dystrophy. *J Gen Physiol* Jan 129:79-94-2007

- 104. Mankodi A., Takahashi M.P., Jiang H., Beck C.L., Bowers W.J., Moxley R.T., Cannon S.C., Thornton C.A. Expanded CUG repeats trigger aberrant splicing of ClC-1 chloride channel premRNA and hyperexcitability of skeletal muscle in myotonic dystrophy. *Mol Cell* 10:35-44, 2002.
- 105. Mounsey J.P., Xu P., John J.E. 3rd, Horne L.T., Gilbert J., Roses A.D., Moorman J.R. Modulation of skeletal muscle sodium channels by human myotonin protein kinase. *J Clin Invest* May 95:2379-84. 1995.
- 106. Orngreen M. C., Olsen D. B., Vissing J. Aerobic training in patients with myotonic dystrophy type 1. *Ann. Neurol* 57: 754-7, 2005.
- 107. Reddy S., Smith D. B., Rich M. M., Leferovich J. M., Reilly P. Davis B. M., Tran K., Rayburn H., Bronson R., Cros D., Balice-Gordon R. J., Housman D. Mice lacking the myotonic dystrophy protein kinase develop a late onset progressive myopathy. *Nature Genet* 13: 325-35, 1996.
- 108. Streib E.W., Sun S.F. Distribution of electrical myotonia in myotonic muscular dystrophy. *Ann Neurol* 14:80-2, 1983.
- 109. Timchenko N.A., Iakova P., Cai Z.J., Smith J.R., Timchenko L.T. Molecular basis for impaired muscle differentiation in myotonic dystrophy. *Mol Cell Biol* Oct 21:6927-38, 2001.
- 110. Trip J., Drost G., van Engelen BG., Faber CG. (2006) **Drug treatment for myotonia.** Cochrane Database Syst Rev CD004762.
- van der Kooi E.L., Lindeman E., Riphagen J. (2005) Strength training and aerobic exercise training for muscle disease. Cochrane Database Syst Rev CD003907.
- 112. Whittaker R.G., Ferenczi E., Hilton-Jones D. Myotonic dystrophy: practical issues relating to assessment of strength. *J Neurol Neurosurg Psychiatry* 77:1282-3, 2006.

#### Cardiovascular

- 113. Bassez G., Lazarus A., Desguerre I., Varin J., Laforet P., Becane H.M., Meune C., Arne-Bes M.C., Ounnoughene Z., Radvanyi H., Eymard B., Duboc D. **Severe cardiac arrhythmias in young patients with myotonic dystrophy type 1.** *Neurology* 63:1939-41, 2004.
- 114. Bhakta D. Lowe M.R., Groh W.J. Prevalence of structural cardiac abnormalities in patients with myotonic dystrophy type I. *Am Heart J* 147:224-7, 2004.
- 115. Duboc D., Eymard B., et al. *Cardiac management of myotonic dystrophy.* **Myotonic dystrophy: present management, future therapy** P. S. Harper, B. M. G. Van Engelen, B. Eymard and D. E. Wilcox. New York, Oxford University Press 85-93, 2004.

- 116. Gregoratos G., Abrams J., Epstein A.E., Freedman R.A., Hayes D.L., Hlatky M.A., Kerber R.E., Naccarelli G.V., Schoenfeld M.H., Silka M.J., Winters S.L., Gibbons R.J., Antman E.M., Alpert J.S., Gregoratos G., Hiratzka L.F., Faxon D.P., Jacobs A.K., Fuster V., Smith S.C. Jr., American College of Cardiology/American
- 117. Heart Association Task Force on Practice Guidelines/North American Society for Pacing and ElectrophysiologyCommittee to Update the 1998 Pacemaker Guidelines. ACC/AHA/NASPE 2002 Guideline update for implantation of cardiac pacemakers and antiarrhythmia devices: summary article. A report of the American College of Cardiology/American Heart Association task force on practice guidelines. *Circulation* 106:2145-61, 2002.
- 118. Harper P.S. Myotonic Dystrophy. 3rd ed, W.B. Saunders, London 2001.
- 119. Klompe L., Lance M., Woerd D., van der Scohy T., Bogers A.J.J.C. Anaesthesiological and ventilatory precautions during cardiac surgery in Steinert's disease: a case report. *J Card Surg* 22:74-5, 2007.
- 120. Kilic T., Vural A., et al. Cardiac resynchronization therapy in a case of myotonic dystrophy (Steinert's disease) and dilated cardiomyopathy. *Pacing Clin Electrophysiol* 30(7): 916-20, 2007.
- 121. Lazarus A., Varin J., et al. Relationships among electrophysiological findings and clinical status, heart function, and extent of DNA mutation in myotonic dystrophy. *Circulation* 99(8): 1041-6. 1999.
- 122. Lazarus A., Varin J., Babuty D., Anselme F., Coste J., Duboc D. Long-term follow-up of arrhythmias in patients with myotonic dystrophy treated by pacing: A multicenter diagnostic pacemaker study. J AmColl Cardiol 40:1645-52, 2002.
- 123. Phillips M.F., Narper P.S. Cardiac disease in myotonic dystrophy. *Cardiovasc Res* 33:13-22, 1997.
- 124. Schoser B.G., Ricker K., Schneider-Gold C., Hengstenberg C., Durre J., Bultmann B., Kress W., Day J.W., Ranum L.P. Sudden cardiac death in myotonic dystrophy type 2.

  Neurology 63:2402-4, 2004.
- 125. Sovari A.A., Bodine C.K., et al. Cardiovascular manifestations of myotonic dystrophy-1. *Cardiol Rev* 15(4): 191-4, 2007.
- 126. Vignaux O., Lazarus A., et al. Right ventricular MR abnormalities in myotonic dystrophy and relationship with intracardiac electrophysiologic test findings: initial results. *Radiology* 224(1): 231-5, 2002.

Respiratory System

- 127. Souayah N.; Tick Chong P.S.; Dreyer M.; Cros D.; Schmahmann J.D. **Myotonic dystrophy type 1 presenting with ventilatory failure.** *J Clin Neuromuscul Dis* Sep 9:252-5, 2007.
- 128. Klompe L.; Lance M.; van der Woerd D.; Scohy T.; Bogers A.J. Anaesthesiological and ventilatory precautions during cardiac surgery in Steinert's disease: a case report. *J Card Surg* 22:74-5, 2007.
- 129. Laub M.; Berg S.; Midgren B. Symptoms, clinical and physiological findings motivating home mechanical ventilation in patients with neuromuscular diseases. *J Rehabil Med* Jul 38:250-4, 2006.
- 130. Fodil R, Lofaso F, Annane D, Falaise L, Lejaille M, Raphael JC, Isabey D, Louis B. Upper airway calibre andimpedance in patients with Steinert's myotonic dystrophy. *Respir Physiol Neurobiol* Nov 30 144:99-107, 2004.
- 131. Nishi M.; Itoh H.; Tsubokawa T.; Taniguchi T.; Yamamoto K. Effective doses of vecuronium in a patient withmyotonic dystrophy. *Anaesthesia* 59:1216-8, 2004.
- 132. Rosenbaum H.K.; Miller J.D. Malignant hyperthermia and myotonic disorders. *Anesthesiol Clin North America* 20, 385-426, 2002.
- 133. Aquilina A.; Groves J. A combined technique utilising regional anaesthesia and target-controlledsedation in a patient with myotonic dystrophy. *Anaesthesia* 57:385-6, 2002.
- 134. Nugent A.M.; Smith I.E.; Shneerson J.M. Domiciliary-assisted ventilation in patients with myotonic dystrophy. *Chest*, Feb 121:459-64, 2002.
- 135. Shneerson J.M.; Simonds A.K. Noninvasive ventilation for chest wall and neuromuscular disorders. Eur Respir J Aug 20:480-7, 2002.
- 136. Ahmadian J.L.; Heller S.L.; Nishida T.; Altman K.W. Myotonic dystrophy type 1 (DM1) presenting with laryngeal stridor and vocal fold paresis. *Muscle Nerve* Apr 25:616-8, 2002.
- Nitz J.; Burke B. A study of the facilitation of respiration in myotonic dystrophy. *Physiother Res Int* 7:228-38, 2002.
- 138. Imison A.R. Anaesthesia and myotonia--an Australian experience. *Anaesth Intensive Care* 29:34-7, 2001.
- 139. Calabrese P.; Gryspeert N.; Auriant I.; Fromageot C.; Raphaël J.C.; Lofaso F.; Benchetrit G. Postural breathing pattern changes in patients with myotonic dystrophy. *Respir Physiol* Aug 122:1-13, 2000.
- 140. Ugalde V.; Breslin E.H.; Walsh S.A.; Bonekat H.W.; Abresch R.T.; Carter G.T. **Pursed** lips breathing improves ventilation in myotonic muscular dystrophy. *Arch Phys Med*
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

  MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- Rehabil Apr 81:472-8, 2000.
- 141. Keller C.; Reynolds A.; Lee B.; Garcia-Prats J. Congenital myotonic dystrophy requiring prolonged endotracheal and noninvasive assisted ventilation: not a uniformly fatal condition. *Pediatrics* 101: 704-6,1998.
- 142. Mathieu J.; Allard P.; Gobeil G.; Girard M.; De Braekeleer M.; Begin P. Anesthetic and surgicalcomplications in 219 cases of myotonic dystrophy. *Neurology* 49:1646-50, 1997.
- 143. Moxley R.T. 3rd. Carrell-Krusen Symposium Invited Lecture 1997.
  Myotonic disorders in childhood: diagnosis and treatment. 1 Child Neurol 12:116-29, 1997.
- 144. Mathieu, J, Allard, P, Gobeil, G, Girard M.; De Braekeleer M.; Begin P. Anesthetic and surgical complications in 219 cases of myotonic dystrophy. *Neurology* 49:1646-50, 1997.
- 145. Robin N.H.; Curtis M.T.; Mulla W.; Reynolds C.A.; Anday E.; Rorke L.B.; Zackai E.H. Non-immune hydrops fetalis associated with impaired fetal movement: a case report and review. *Am. J. Med. Genet* 53: 251-4, 1994.
- Lehmann-Horn F.; Iaizzo P.A. Are myotonias and periodic paralyses associated with susceptibility to malignant hyperthermia?. *Br.J. Anaesth.* 1990; 65:692-7, 1990.
- 147. Aldridge L.M. Anaesthetic problems in myotonic dystrophy. A case report and review of the Aberdeen experience comprising 48 general anaesthetics in a further 16 patients. *Br J Anaesth* 57:1119 1985.
- 148. Mudge B.J., Taylor P.B.; Vanderspek A.F. Perioperative hazards in myotonic dystrophy. *Anaesthesia* 35:492- 5, 1980.
- Moulds R. F.; Denborough M.A. Letter: Myopathies and malignant hyperpyrexia. *Br*Med J 3:520, 1974. Saidman L.J.; Havard E.S.; Eger E.I. 2nd. Hyperthermia during anesthesia.

  JAMA 190:1029-32, 1964.
- 150. Bellin M., Alduini P., Costa F., Tosetti C., Pasquali L., Pucciani F., Tornar A., Mammini C., Siciliano G., Maltinti G., Marchi S. Gastric emptying in myotonic dystrophic patients.

  Dig Liv Dis 34: 484-488, 2002.

# **Gastrointestinal System**

151. Bellini M., Biagi S., Stasi C., Costa F., Mumolo M.G., Ricchiuti A., Marchi S.

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MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- **Gastrointestinal manifestations in myotonic muscular dystrophy.** *World J Gastroenterol* Mar 28 12:1821-8, 2006.
- 152. Brunner H.G., Hamel B.C.J., Rieu P., Howeler C.J., Peters F.T.M. Intestinal pseudoobstruction in myotonic dystrophy. *J. Med. Genet* 29: 791-3, 1992.
- 153. Costantini M., Zaninotto G., Anselmino M., Marcon M., Iurilli V., Boccu C., Feltrin G.P., Angelini C., Ancona E. Esophageal motor function in patients with myotonic dystrophy. *Dig Dis Sci* 41: 2032-8, 1996.
- 154. Garrett J.M., DuBose T.D. Jr., Jackson J.E., Norman J.R. **Esophageal and pulmonary** disturbances in myotonia dystrophica. *Arch Intern Med* 123: 26-32, 1969.
- 155. Horowitz M., Maddox A., Maddern G.J., Wishart J., Collins P.J., Shearman D.J. Gastric and esophageal emptying in dystrophia myotonica. Effect of metoclopramide. *Gastroenterology* 92: 570-577, 1987.
- 156. Kerr T.P., Robb S.A., Clayden G.S. Lower gastrointestinal tract disturbance in congenital myotonic dystrophy *Eur J Pediatr* Aug 161:468-9, 2002.
- 157. Lecointe-Besancon I., Leroy F., Devroede G., Chevrollier M., Lebeurier F., Congard P., Arhan P. A comparative study of esophageal and anorectal motility in myotonic dystrophy. *Dig Dis Sci* 44:1090-99, 1999.
- 158. Marchi S., Polloni A., Bellini M., Costa F., Tumino E., Masi M.C., Rossi B., Siciliano G., Maltinti G. Gastrointestinal manifestations in myotonic muscular dystrophy: a review. *Acta Cardiomiologica* 1: 151-8, 1989.
- 159. Modolell I., Mearin F., Baudet J.S., Gamez J., Cervera C., Malagelada J.R. Pharyngo-esophageal motility disturbances in patients with myotonic dystrophy. *Scand J Gastroenterol* 34: 878-882, 1999.
- Motlagh B., MacDonald J.R., Tarnopolsky M.A. Nutritional inadequacy in adults with muscular dystrophy. *Muscle Nerve* 31:713-8, 2005.
- Nowak T.V., Ionasescu V., Anuras S. **Gastrointestinal manifestations of the muscular dystrophies.** *Gastroenterology* 82: 800-10, 1982.
- 162. Ronnblom A., Forsberg H., Danielsson A. **Gastrointestinal symptoms in myotonic** dystrophy. *Scand J Gastroenterol* 31:654-7, 1996.
- 163. Sartoretti C., Sartoretti S., DeLorenzi D., Buchmann P. Intestinal non-rotation and pseudoobstruction in myotonic dystrophy: case report and review of the literature. *Int J Colorectal Dis* 11:10, 1996.
- Siegel C.I., Hendrix T.R., Harvey J.C. The swallowing disorder in myotonia dystrophica. *Gastroenterology* 50:541-50, 1966.
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

  MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- 165. Takhar A.S., Thaper A., Byrne A., Lobo D.N. Laparoscopic cholecystectomy in a patient with myotonic dystrophy. *J R Soc Med* Jun 97:284-5, 2004.
- Siegel C.I., Hendrix T.R., Harvey J.C. The swallowing disorder in myotonia dystrophica. *Gastroenterology* 50: 541-50, 1966.

Central Nervous System

- 167. Akiguchi I., Nakano S., Shiino A., Kimura R., Inubushi T., Handa J., Nakamura M., Tanaka M., Oka N., Kimura J.Brain proton magnetic resonance spectroscopy and brain atrophy in myotonic dystrophy. *Arch. Neurol* 56: 325-30, 1999.
- 168. Annane D., Moore D.H., Barnes P.R., Miller R.G. Psychostimulants for hypersomnia (excessive daytime sleepiness) in myotonic dystrophy. Cochrane Database Syst Rev 2006, 3:CD003218.
- 169. Antonini G., Morino S., Fiorelli M., Fiorini M., Giubilei F. Selegiline in the treatment of hypersomnolence in myotonic dystrophy: a pilot study. *J Neurol Sci* 147:167-9, 1997.
- 170. Antonini G., Soscia F., Giubilei F. De Carolis A., Gragnani F., Morino S., Ruberto A., Tatarelli R. Health- related quality of life in myotonic dystrophy type 1 and its relationship with cognitive and emotional functioning. *J Rehabil Med* 38:181-5, 2006.
- 171. Ashizawa T. Myotonic dystrophy as a brain disorder. Arch Neurol 55:291-3, 1998.
- 172. Censori B., Provinciali L., Danni M., Chiaramoni L., Maricotti M., Foschi N., Del Pesce M., Salvolini U. Brain involvement in myotonic dystrophy: MRI features and their relationship to clinical and cognitive conditions. *Acta Neurol. Scand* 90: 211-7, 1994.
- Damian M.S., Bachmann G., Koch M.C., Schilling G., Stoppler S., Dorndorf W. Brain disease and molecular analysis in myotonic dystrophy. *Neuroreport* 5:2549-52, 1994.
- 174. Delaporte C. Personality patterns in patients with myotonic dystrophy. *Arch. Neurol* 55: 635-40, 1998.
- 175. Gaul C., Schmidt T., Windisch G., Wieser T., Muller T., Vielhaber S., Zierz S., Leplow B. Subtle cognitive dysfunction in adult onset myotonic dystrophy type 1 (DM1) and type 2 (DM2). *Neurology* 67:350-2,2006.
- 176. Gibbs J.W. 3rd, Ciafaloni E., Radtke R.A. Excessive daytime somnolence and increased rapid eye movement pressure in myotonic dystrophy. *Sleep* 25:662-5, 2002.
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

  MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- 177. Harper P.S. Myotonic Dystrophy. Third ed. W.B. Saunders, London. 2001.
- 178. Krishnan A.V., Kiernan M.C. Axonal function and activity-dependent excitability changes in myotonic dystrophy. *Muscle Nerve* 33:627-36, 2006.
- 179. Laberge L., Begin P., Montplaisir J., Mathieu J. **Sleep complaints in patients with myotonic dystrophy**. *J Sleep Res* 13:95-100, 2004.
- 180. Logullo F., Censori B., Danni M., Del Pesce M., Di Bella P., Provinciali L. Peripheral neuropathy in myotonic dystrophy: electrophysiological and clinical features. *Electromyogr Clin Neurophysiol* 32:515-20, 1992.
- 181. Maurage C.A., Udd B., Ruchoux M.M., Vermersch P., Kalimo H., Krahe R., Delacourte A., Sergeant N. Similar brain tau pathology in DM2/PROMM and DM1/Steinert disease.

  Neurology 65: 1636-8, 2005.
- 182. MacDonald J.R., Hill J.D., Tarnopolsky M.A. Modafinil reduces excessive somnolence and enhances mood in patients with myotonic dystrophy. *Neurology* 59:1876-80, 2002.
- 183. Meola G., Sansone V. **Cerebral involvement in myotonic dystrophies.** *Muscle Nerve* 36:294-306, 2007.
- 184. Meola G., Sansone V., Perani D., Collebori A., Cappa S., Cotelli M., Fazio F., Thornton, C.A., Moxley, R.T.Reduced cerebral blood flow and impaired visual-spatial function in proximal myotonic myopathy. *Neurology* 53:1042, 1999.
- 185. Modoni A., Silvestri G., Pomponi M.G., Mangiola F., Tonali P.A., Marra C. Characterization of the pattern of cognitive impairment in myotonic dystrophy type 1. *Arch Neurol* 61:1943-7, 2004.
- 186. Olson N.D., Jou M.F., Quast J.E., Nuttall F.Q. Peripheral neuropathy in myotonic dystrophy. Relation to glucose intolerance. *Arch Neurol* 35:741-5, 1978.
- 187. Oyamada Ř., Hayashi M., Katoh Y., Tsuchiya K., Mizutani T., Tominaga I., Kashima H. Neurofibrillary tangles and deposition of oxidative products in the brain in cases of myotonic dystrophy. *Neuropathology* 26:107-14, 2006.
- 188. Park 3.D., Radtke R.A. Hypersomnolence in myotonic dystrophy: demonstration of sleep onset REM sleep. *J Neurol Neurosurg Psychiatry* 58:512-3, 1995.
- 189. Rubinsztein J.S., Rubinsztein D.C., Goodburn S., Holland A.J. **Apathy and hypersomnia are common features of myotonic dystrophy.** *J Neurol Neurosurg Psychiatry* 64:510-5, 1998.
- 190. Sansone V., Gandossini S, Cotelli M., Calabria M., Zanetti O., Meola G. **Cognitive** impairment in adult myotonic dystrophies: a longitudinal study. *Neurol Sci* 28:9-15, 2007.
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*
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  as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- 191. Sergeant N., Sablonniere B., Schraen-Maschke S., Ghestem A., Maurage C.-A., Wattez A., Vermersch P., Delacourte A. Dysregulation of human brain microtubule-associated tau mRNA maturation in myotonic dystrophy type 1. *Hum. Molec. Genet* 10:2143-55, 2001.
- 192. Spranger M., Spranger S., Tischendorf M., Meinck H.M., Cremer M. Myotonic dystrophy. The role of large triplet repeat length in the development of mental retardation. *Arch Neurol* 54:251-4, 1997.
- 193. Talbot K., Stradling J., Crosby J., Hilton-Jones D. Reduction in excess daytime sleepiness by modafinil in patients with myotonic dystrophy. *Neuromuscul Disord* 13:357-64, 2003.
- 194. Turnpenny P., Clark C., Kelly K. Intelligence quotient profile in myotonic dystrophy, intergenerational deficit, and correlation with CTG amplification. *J. Med. Genet* 31:300-5, 1994.
- 195. Winblad S., Lindberg C., Hansen S. Cognitive deficits and CTG repeat expansion size in classical myotopic dystrophy type 1 (DM1). Behav Brain Funct May 15 2:16, 2006.
- 196. Winblad S., Lindberg C., Hansen S. Temperament and character in patients with classical myotonic dystrophy type 1 (DM-1). Neuromuscul Disord 15:287-92, 2005.
- 197. Wintzen A.R., Lammers G.J., van Dijk J.G. Does modafinil enhance activity of patients with myotonic dystrophy?: a double-blind placebo-controlled crossover study. *J Neurol* Jan 254:26-8, 2007.

## Reproductive and Endocrine

- 198. Rakocevic-Stojanovic V .; Savic D .; Pavlovic S .; Lavrnic D .; Stevic Z .; Basta I .; Romac S .; Apostolski S . Intergenerational changes of CTG repeat depending on the sex of the transmitting parent in myotonic dystrophy type 1. Eur J Neurol 12:236-7, 2005.
- 199. Rudnik-Schoneborn S.; Zerres K. Outcome in pregnancies complicated by myotonic dystrophy: a studyof 31 patients and review of the literature. *EJOG* vol 114: 44-53, 2004.
- 200. Savkur R.S.; Philips A.V.; Cooper T.A.; Dalton J.C.; Moseley M.L.; Ranum L.P.; Day J. W. Insulin receptor splicing alteration in myotonic dystrophy type 2. *Am J Hum Genet* Jun 74:1309-13, 2004.
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*
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  as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- Sarkar P.S.; Paul S.; Han J.; Reddy S. Six5 is required for spermatogenic cell survival and spermiogenesis. *Hum. Molec. Genet* 13: 1421-1431, 2004.
- 202. Johansson A.; Ahrén B.; Forsberg H.; Olsson T. Testosterone and diurnal rhythmicity of leptin, TNF-alpha and TNF-II receptor in insulin-resistant myotonic dystrophy patients. *Int J Obes Relat Metab Disord* Oct 26:1386-92, 2002.
- 203. Magee A.C.; Hughes A.E.; Kidd A.; Lopez de Munain A.; Cobo A.M.; Kelly K.; Dean J.; Nevin N.C. Reproductive counseling for women with myotonic dystrophy. *J Med Genet* 39: e15, 2002.
- 204. Savkur R.S.; Philips A.V.; Cooper T.A. Aberrant regulation of insulin receptor alternative splicing is associated with insulin resistance in myotonic dystrophy. *Nat Genet* 29:40-7, 2001.
- 205. Rudnik-Schoneborn S.; Nicholson G.A.; Morgan G., Rohrig D.; Zerres K. Different patterns of obstetric complications in myotonic dystrophy in relation to the disease status of the fetus. *Am. J. Med. Genet*80: 314-21, 1998.
- 206. Bergoffen J.; Kant J.; Sladky J.; McDonald-McGinn D.; Zackai E.H.; Fischbeck K.H. Paternal transmission of congenital myotonic dystrophy. *J. Med. Genet* 31: 518-20, 1994.
- 207. Roig M.; Balliu P.-R.; Navarro C.; Brugera R.; Losada M. Presentation, clinical course, and outcome of the congenital form of myotonic dystrophy. *Pediat. Neurol* 11: 208-13, 1994.
- 208. Vazquez, JA, Pinies, JA, Martul, P, De los Rios A.; Gatzambide S.; Busturia M.A. Hypothalamic-pituitary- testicular function in 70 patients with myotonic dystrophy. *J Endocrinol Invest* 13:375, 1990.
- 209. Middleton P.G., Posen S.; Shannon G. Hyperparathyroidism in a patient with myotonic dystrophy. *J R Soc Med* Apr 82:227, 1989.
- Banerjee D.; McClintock J.; Silver M.M.; Hudson A.J. Monocyte IgG-Fc receptors in myotonic dystrophy. *Clin Exp Immunol* Dec 50:572-8, 1982.
- 211. Moxley R.T 3rd; Livingston J.N.; Lockwood D.H.; Griggs R.C.; Hill R.L. Abnormal regulation of monocyte insulin-binding affinity after glucose ingestion in patients with myotonic dystrophy. *Proc Natl Acad SciUSA* Apr 78:2567-71, 1981.
- 212. Larsen B.; Johnson G.; van Loghem E.; Marshall W.H.; Newton R.M.; Pryse-Phillips W.; Skanes V. Immunoglobulin concentration and Gm allotypes in a family with thirty-three cases of myotonicdystrophy. *Clin. Genet* 18: 13-9, 1980.
- 213. Takeda R .; Ueda M . Pituitary-gonadal function in male patients with myotonic dystrophy- serum luteinizing hormone, follicle stimulating hormone and testosterone levels and histological damage ofthe testis. *Acta Endocrinol (Copenh)* Feb 84:382-9, 1977.
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

  MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- 214. Seay A.R.; Ziter F.A.; Hill H.R. Defective neutrophil function in myotonic dystrophy. *J. Neurol Sci* 35: 25-30, 1978.
- 215. Webb D.; Muir I.; Faulkner J.; Johnson G. **Myotonia dystrophica; obstetric complications.** *Am. J. Obstet.Gynec* 132: 265-70, 1978.
- 216. Sarnat H.B.; O'Connor T.; Byrne P.A. Clinical effects of myotonic dystrophy on pregnancy and the neonate. *Arch Neurol* 33:459-65, 1976.
- 217. Sagel J.; Distiller L.A.; Morley J.E.; Isaacs H.; Kay G.; van der Walt A. Myotonia dystrophica: studies on gonadal function using luteinising-releasing-hormone (LRH).

  J. Clin. Endocr. Metab 40: 1110, 1975.
- 218. Harper P.S.; Dyken P.R. Early-onset dystrophia myotonica: evidence supporting a maternal environmental factor. *Lancet II* 53-55, 1972.
- 219. Wochner R.D.; Drews G.; Strober W.; Waldmann T.A. Accelerated breakdown of immunoglobulin G (lgG) in myotonic dystrophy: a hereditary error of immunoglobulin catabolism. *J. Clin. Invest* 45: 321-9, 1966.

Immune System and Tumor

- Bruyland M., Lissens W., De Waele M., Demanet C. Hypo-IgG in myotonic dystrophy is due to a selective reduction of the IgG1-subclass serum level. *Muscle Nerve* Oct 17:1233-4, 1994.
- 221. Cigliano B., Baltogiannis N., De Marco M., Faviou E., Settimi A., Tilemis S., Soutis M., Papandreou E., D'Agostino S., Fabbro M.A. Pilomatricoma in childhood: a retrospective study from three European paediatric centres. *Eur J Pediatr* 164:673-7, 2005.
- Chuang C.C., Lin H.C. Pilomatrixoma of the head and neck. *J Chin Med Assoc* Dec 67 633-6, 2004.
- 223. Day J.W., Ricker K., Jacobsen J.F., Rasmussen L.J., Dick K.A., Kress W., Schneider C., Koch M.C., Beilman G.J., Harrison A.R., Dalton J.C., Ranum L.P. Myotonic dystrophy type 2: molecular, diagnostic and clinical spectrum. *Neurology* Feb 25 60:657-64, 2003.
- 224. Geh J.L., Moss A.L. Multiple pilomatrixomata and myotonic dystrophy: a familial association. *Br J Plast Surg* 52:143-5, 1999.
- 225. Hubbard V.G., Whittaker S.J. Multiple familial pilomatricomas: an unusual case. *J Cutan Pathol.* Mar 31:281-3, 2004.
- 226. Kim J., Hayton W.L., Robinson J.M., Anderson C.L. Kinetics of FcRn-mediated

  \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

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- recycling of IgG and albumin in human: pathophysiology and therapeutic implications using a simplified mechanism-basedmodel. Clin Immunol Feb 122:146-55, 2007.
- 227. Kudva G.C., Maliekel K., Kim H.J., Naunheim K.S., Stolar C., Fletcher J.W., Puri S. Thymoma and myotonic dystrophy: successful treatment with chemotherapy and radiation: case report and review of the literature. *Chest* Jun 121:2061-3, 2002.
- 228. Nakamura A., Kojo T., Arahata K., Takeda S. Reduction of serum IgG level and peripheral T-cell counts are correlated with CTG repeat lengths in myotonic dystrophy patients. *Neuromuscul Disord* May 6:203-10,1996.
- 229. Pan-Hammarström Q., Wen S., Ghanaat-Pour H., Solders G., Forsberg H., Hammarström L. Lack of correlation between the reduction of serum immunoglobulin concentration and the CTG repeat expansion in patients with type 1 dystrophia [correction of Dystrofia] myotonica. J Neuroimmunol Nov,144:100-4, 2003.
- 230. Reimund J.M., Duclos B., Chamouard P., Warter J.M., Weill J.P., Baumann R. Intestinal carcinoid tumor and myotonic dystrophy. A new association? *Dig Dis Sci* Dec 37:1922-5, 1992
- 231. Saponaro A.E., Marini M.A., Rossi G.C., Casas J.G. Multiple basal cell carcinomas in a patient with myotonic dystrophy type 1. *Int J Dermatol* Jan 45:87-8, 2006.
- 232. Schara U., Schoser B.G. Myotonic dystrophies type 1 and 2: a summary on current aspects. *Semin Pediatr Neurol* Jun, 13:71-9, 2006.
- 233. Terrence C.F. Myotonic dystrophy and multiple sclerosis. *J Neurol* Oct 4 213:305-8, 1976.
- 234. Vandecaveye V, Verswijvel G., Colla P, Verhelst H., VanRobaeys J., Palmers Y. Cystic insulinoma of the pancreas in a patient with myotonic dystrophy: correlation of imaging and pathologic findings. *JBR-BTR* Sep-Oct 86:268-71, 2003.
- 235. Waldmann T.A., Polmar S.H., Balestra S.T., Jost M.C., Bruce R.M., Terry W.D. Immunoglobulin E in immunologic deficiency diseases. II. Serum IgE concentration of patients with acquired
- 236. hypogammaglobulinemia, thymoma and hypogammaglobulinemia, myotonic dystrophy, intestinallymphangiectasia and Wiskott-Aldrich syndrome. *J Immunol* Aug 109:304-10, 1972.
- 237. Waldmann T.A., Strober W., Blaese R.M., Terry W.D. Immunoglobulin metabolism in disease. Birth Defects. Orig Artic Ser. 11:87-94, 1975.
- \* THIS IS A DRAFT AND HAS NOT YET BEEN INTRODUCED ON THE SENATE FLOOR \*

  MDF has been working with US Senate Staff and Legislative Counsel to draft legislation declaring September 15th as International Myotonic Dystrophy Awareness Day. We hope to see a final version introduced in July!

- 238. Arsenault M.-E., Prévost C., Lescault A., Laberge C., Puymirat J., Mathieu J. Clinical characteristics of myotonic dystrophy type 1 patients with small CTG expansions. *Neurology* 66: 1248-50, 2006.
- 239. Baig K.M., Discepola M. Recurrent capsular opacification after Nd:YAG laser treatment in myotonic dystrophy. *Can J Ophthalmol* 42:489-490, 2007.
- 240. Bollinger K.E., Kattouf V., Arthur B., et al. **Hypermetropia and esotropia in myotonic** dystrophy. *J Aapos* 12:69-71, 2008.
- 241. Harper PS. Myotonic Dystrophy. Third ed. W.B. Saunders, London 2001.
- 242. Medica I., Teran N., Volk M., Pfeifer V., Ladavac E., Peterlin B. Patients with primary cataract as a genetic pool of *DMPK* protomutation. *J Hum Genet* 52:123-8, 2007.
- 243. Schein O.D., Katz J., Bass E.B., Tielsch J.M., Lubomski L.H., Feldman M.A., Petty B. G., Steinberg E.P. The value of routine preoperative medical testing before cataract surgery. Study of medical testing for cataract surgery. *N Engl J Med* Jan 20 342:168-75, 2000.
- 244. Shaunak S., Orrell R., Henderson L., Kennard C. Saccades and smooth pursuit in myotonic dystrophy. *J Neurol* 246:600-606, 1999.
- 245. Versino M., Rossi B., Beltrami G., et al. Ocular motor myotonic phenomenon in myotonic dystrophy. *J Neurol Neurosurg Psychiat* 72:236-240, 2002.

Speech and Swallowing

246. Lisa Bengtsson, MS; Kiera Berggren, MA/CCC-SLP, MS; Lenie van den Engel-Hoek, PhD; Simone Knuijt, PhD; Lotta Sjögreen, PhD; Kristi Williams, M.S. CCC-SLP. Care Guidelines for Speech and Language Pathologists Treating Adults and Children with Myotonic Dystrophy. 2020. Myotonic Dystrophy Foundation. https://www.myotonic.org/sites/default/files/pages/files/MDF\_SLP\_Guide\_1\_2021.pdf

Diabetes

247. Renna LV, Bosè F, Iachettini S, Fossati B, Saraceno L, Milani V, Colombo R, Meola G,

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Cardani R. Receptor and post-receptor abnormalities contribute to insulin resistance in myotonic dystrophy type 1 and type 2 skeletal muscle. *PLoS One.* Sep 15;12(9):e0184987, 2017.

**Excessive Daytime Sleepiness** 

248. Franco Giubilei, Giovanni Antonini, Stefano Bastianello, Stefania Morino, Andrea Paolillo, Marco Fiorelli, Cinzia Ferretti, Cesare Fieschi. Excessive daytime sleepiness in myotonic dystrophy. *Journal of the Neurological Sciences*, Vol 164, Issue 1, 1999, Pages 60-63.

Genetic Testing

249. Savić Pavićević D, Miladinović J, Brkušanin M, Šviković S, Djurica S, Brajušković G, Romac S. Molecular genetics and genetic testing in myotonic dystrophy type 1. *Biomed Res Int.* 2013:391821, 2013.

Diagnostic Odyssey

250. Sarah Howe, Marigold Foundation and the Christopher Project Reference Group. The Christopher Project: Report to the Myotonic Dystrophy Community. Marigold Foundation. Pages 23-24. Spring 2019.

Drug Development

- 251. Newcastle University John Walton Muscular Dystrophy Research Centre. Myotonic Dystrophy Drug Development Pipeline. 2021. Accessed May 7, 2021:

  http://www.newcastle.com/six/as/lefault/files/pages/files/Myotonic-Dystrophy-Drug-Development-Pipeline-
- 252. Myotonic Dystrophy Foundation. Voice of the Patient Report Summary report resulting from an Externally-led Patient-Focused Drug Development meeting, an effort to expand the benefits of the U.S. Food and Drug Administration's (FDA's) Patient-Focused Drug Development Initiative. 2017. Accessed May 7, 2021: https://www.myotonic.org/sites/default/files/MDFVoicePatientReportMay2017.pdf