TECHNICAL STANDARDS FOR CLINICAL GENETICS LABORATORIES (2021 Revision)

Disease-Specific Laboratory Standards and Articles Addressing Special Topics

DISEASE-SPECIFIC

Biochemical Genetics

De Biase I, Tortorelli S, Kratz L, J Steinberg S, Cusmano-Ozog K, Braverman N; ACMG Laboratory Quality Assurance Committee. Laboratory diagnosis of disorders of peroxisomal biogenesis and function: a technical standard of the American College of Medical Genetics and Genomics (ACMG). Genet Med. 22, 686–697 (2020).

Pasquali M, Yu C, Coffee B. <u>Laboratory diagnosis of galactosemia: a technical standard and</u> <u>guideline of the American College of Medical Genetics and Genomics (ACMG)</u>. Genet Med. 20, 3– 11 (2018).

Strovel ET, Cowan TM, Scott AI, Wolf B. <u>Laboratory diagnosis of biotinidase deficiency</u>, 2017 <u>update: a technical standard and guideline of the American College of Medical Genetics and</u> <u>Genomics</u>. Genet Med. 19, 1079 (2017).

Sharer JD, Bodamer O, Longo N, Tortorelli S, Wamelink MM, Young S. <u>Laboratory diagnosis of creatine deficiency syndromes: a technical standard and guideline of the American College of Medical Genetics and Genomics</u>. Genet Med. 19, 256–263 (2017).

Cytogenetics

Wolff DJ, Van Dyke DL, Powell CM; Working Group of the ACMG Laboratory Quality Assurance Committee. <u>Laboratory guideline for Turner syndrome</u>. Genet Med. 12, 52–55 (2010).

Molecular Genetics

Mao R, Krautscheid P, Graham RP, Ganguly A, Shankar S, Ferber M, and Hegde M; ACMG Laboratory Quality Assurance Committee. Genetic Testing for Inherited Colorectal Cancer and Polyposis 2021 Revision: A Technical Standard of the American College of Medical Genetics and Genomics (ACMG). Genet Med. (in press)

Spector E, Behlmann A, Kronquist K, Rose NC, Lyon E, and Reddi HV; ACMG Laboratory Quality Assurance Committee. <u>Laboratory testing for fragile X, 2021 revision: a technical standard of the</u> <u>American College of Medical Genetics and Genomics (ACMG)</u>. Genet Med. Published April 1, 2021

Addendum: <u>Technical standards and guidelines for spinal muscular atrophy testing</u>. Genet Med. Published October 13, 2020

Addendum: <u>American College of Medical Genetics and Genomics Standards and Guidelines for</u> <u>Clinical Genetics Laboratories, 2014 edition: technical standards and guidelines for Huntington</u> <u>disease</u>. Genet Med. Published July 20, 2020

Deignan JL, Astbury C, Cutting GR, del Gaudio D, Gregg AR, Grody WW, Monaghan, KG and Richards S; ACMG Laboratory Quality Assurance Committee. <u>CFTR variant testing: a technical standard of the American College of Medical Genetics and Genomics (ACMG)</u>. Genet Med. 22, 1288–1295 (2020).

Zhang S, Taylor AK, Huang X, Luo B, Spector EB, Fang P, Richards CS; ACMG Laboratory Quality Assurance Committee. <u>Venous thromboembolism laboratory testing (factor V Leiden and factor II</u> c.*97G>A), 2018 update: a technical standard of the American College of Medical Genetics and <u>Genomics (ACMG)</u>. Genet Med. 20, 1489–1498 (2018).

Bean L, Bayrak-Toydemir P. <u>American College of Medical Genetics and Genomics Standards and</u> <u>Guidelines for Clinical Genetics Laboratories, 2014 edition: technical standards and guidelines for</u> <u>Huntington disease</u>. Genet Med. 16, e2 (2014).

Hegde M, Ferber M, Mao R, Samowitz W, Ganguly A; Working Group of the American College of Medical Genetics and Genomics (ACMG) Laboratory Quality Assurance Committee. <u>ACMG</u> technical standards and guidelines for genetic testing for inherited colorectal cancer (Lynch syndrome, familial adenomatous polyposis, and MYH-associated polyposis). Genet Med. 16, 101–116 (2014).

Lyon E, Gastier Foster J, Palomaki GE, Pratt VM, Reynolds K, Sábato MF, Scott SA, Vitazka P; working group of the Molecular Genetics Subcommittee on behalf of the American College of Medical Genetics and Genomics ACMG) Laboratory Quality Assurance Committee. <u>Laboratory</u> testing of CYP2D6 alleles in relation to tamoxifen therapy. Genet Med. 14, 990–1000 (2012).

Prior TW, Nagan N, Sugarman EA, Batish SD, Braastad C. <u>Technical standards and guidelines for</u> <u>spinal muscular atrophy testing</u>. Genet Med. 13, 686–694 (2011).

Prior TW; American College of Medical Genetics (ACMG) Laboratory Quality Assurance Committee. <u>Technical standards and guidelines for myotonic dystrophy type 1 testing</u>. Genet Med. 11, 552–555 (2009).

Monaghan KG, Feldman GL, Palomaki GE, Spector EB; Ashkenazi Jewish Reproductive Screening

Working Group; Molecular Subcommittee of the ACMG Laboratory Quality Assurance Committee. <u>Technical standards and guidelines for reproductive screening in the Ashkenazi Jewish population</u>. Genet Med. 10, 57–72 (2008).

SPECIAL TOPICS

Chao EC, Astbury C, Deignan, JL, Pronold M, Reddi, HV, and Jeffrey N. Weitzel, MD; ACMG Laboratory Quality Assurance Committee. <u>Incidental detection of acquired variants in germline genetic and genomic testing: a points to consider statement of the American College of Medical Genetics and Genomics (ACMG)</u>. Genet Med. Published 16 April 2021.

Deignan JL, Chao E, Gannon JL, Greely HT, Farwell Hagman KD, Mao R, and Topper S; ACMG Laboratory Quality Assurance Committee. <u>Points to consider when assessing relationships (or suspecting misattributed relationships) during family-based clinical genomic testing: a statement of the American College of Medical Genetics and Genomics (ACMG). Genet Med. 22, 1285–1287 (2020).</u>

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Palomaki GE, Lee JE, Canick JA, McDowell GA, Donnenfeld AE; ACMG Laboratory Quality Assurance Committee. <u>Technical standards and guidelines: prenatal screening for Down syndrome</u> <u>that includes first-trimester biochemistry and/or ultrasound measurements</u>. Genet Med. 11, 669–681 (2009).