



 Network Neurological Diseases (ERN-RN)
Coordinator Universitätsklinikum Tübingen – Deutschland

MANAGEMENT OF NON-PKAN GENETIC DEFECTS

ERN-RND-endorsed review articles



Endorsed by ERN-RND: 16th June 2020



Disclaimer:

"The European Commission support for the production of this publication does not constitute endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein."

More information on the European Union is available on the Internet (http://europa.eu).

Luxembourg: Publications Office of the European Union, 2019

© European Union, 2019

Reproduction is authorised provided the source is acknowledged.







INTRODUCTION TO THE EUROPEAN REFERENCE NETWORK FOR RARE NEUROLOGICAL DISEASES (ERN-RND):

ERN-RND is a European Reference Network established and approved by the European Union. ERN-RND is a healthcare infrastructure which focuses on rare neurological diseases (RNDs). The three main pillars of ERN-RND are (i) network of experts and expertise centres, (ii) generation, pooling and dissemination of RND knowledge, and (iii) implementation of e-health to allow the expertise to travel instead of patients and families.

ERN-RND unites 32 of Europe's leading expert centres in 13 Member States and includes highly active patient organizations. Centres are located in Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, Italy, Lithuania, Netherlands, Poland, Slovenia, Spain and the UK.

The following disease groups are covered by ERN-RND:

- Ataxias and Hereditary Spastic Paraplegias
- Atypical Parkinsonism and genetic Parkinsons' Disease
- Dystonia, Paroxysmal Disorders and Neurodegeneration with Brain Iron Accumulation
- Frontotemporal Dementia
- Huntingtons' Disease and other Choreas
- Leukodystrophies

Specific information about the network, the expert centres and the diseases covered can be found on the network's website

www.ern-rnd.eu.

Recommendation for clinical use:

Currently, there are no guidelines available for the management of non-PKAN genetic defects. The European Reference Network for Rare Neurological Diseases strongly recommends following the guidance given in the review articles below for the management of non-PKAN genetic defects.







DISCLAIMER

Clinical practice guidelines, practice advisories, systematic reviews and other guidance published, endorsed or affirmed by ERN-RND are assessments of current scientific and clinical information provided as an educational service. The information (1) should not be considered inclusive of all proper treatments, methods of care, or as a statement of the standard of care; (2) is not continually updated and may not reflect the most recent evidence (new information may emerge between the time information is developed and when it is published or read); (3) addresses only the question(s) specifically identified; (4) does not mandate any particular course of medical care; and (5) is not intended to substitute for the independent professional judgement of the treating provider, as the information does not account for individual variation among patients. In all cases, the selected course of action should be considered by the treating provider in the context of treating the individual patient. Use of the information is voluntary. ERN-RND provided this information on an "as is" basis, and makes no warranty, expressed or implied, regarding the information. ERN-RND specifically disclaims any warranties of merchantability or fitness for a particular use or purpose. ERN-RND assumes no responsibility for any injury or damage to persons or property arising out of or related to any use of this information or for any errors or omissions.



European Reference Network for rare of low prevalence for rare of low prevalence European Reference Networks

METHODOLOGY

The endorsement of the review articles for non-PKAN genetic defects was done by the Disease group for Dystonia, Paroxysmal Disorders and NBIA of ERN-RND.

Disease group for Dystonia, Paroxysmal Disorders and NBIA:

Disease group coordinators:

Tobias Bäumer¹⁵, Belén Pérez Dueñas²¹, Giovanna Zorzi¹¹

Disease group members:

Alberto Albanese¹, Enrico Bertini⁴; Kailash Bhatia⁵; Elena Chorbadgieva⁶; Yaroslau Compta⁷; Adrian Danek²; Alejandra Darling⁷; Tom de Koning⁸; Marina de Koning-Tijssen⁸; Malgorazate Dec-Cwiek⁹; Maria Teresa Dotti¹⁰; Petr Dusek²³, Antonio Elia¹¹; Antonio Federico¹⁰; Dusan Flisar¹²; Thomas Gasser¹³; Kathrin Grundmann¹³; Kinga Hadzsiev¹⁴; Petra Havránková²³, Robert Jech²³, Christine Klein¹⁵; Jiri Klempir¹⁶; Thomas Klopstock², Maja Kojovic¹⁷; Norbert Kovacs¹⁴; Bernhard Landwehrmeier¹⁸; Ebba Lohmann¹³; Katja Lohmann¹⁵, Sebastian Löns¹⁵; Maria Jose Marti⁷; Maria Judit Molnar¹⁹; Alexander Münchau¹⁵; Juan Dario Ortigoza Escobar⁷; Damjan Osredkar¹²; Sebastian Paus²⁰; Bart Post²²; Evžen Růžička²³; Susanne A. Schneider²; Sinem Tunc¹⁵; Marie Vidailhet³, Michel Willemsen²²

Patient representative:

Marek Parkovic, AHC 18Plus, Germany

¹ IRCCS Clinical Institute Humanitas – Rozzano, Italy; ² Klinikum der Universität München, Germany; ³ Assistance Publique-Hôpitaux de Paris, Hôpital Pitié-Salepétrière, France: Reference Centre for Rare Diseases 'Neurogenetics'; ⁴ Pediatric hospital Bambino Gesù, Rome, Italy; ⁵ University College London Hospitals NHS Foundation Trust, United Kingdom; ⁶ University Neurological Hospital "St. Naum" Sofia, Bulgaria; ⁷ Hospital Clínic i Provincial de Barcelona y Hospital de Sant Joan de Déu, Spain; ⁸ University Medical Center Groningen, Netherlands; ⁹ University Hospital in Krakow, Poland; ¹⁰ AOU Siena, Italy; ¹¹ Foundation IRCCS neurological institute Carlo Besta – Milan, Italy; ¹² University Medical Centre Ljubljana, Slovenia; ¹³ Universitätsklinikum Tübingen, Germany; ¹⁴ University of Pécs, Hungary; ¹⁵ Universitätsklinikum Schleswig-Holstein, Germany; ¹⁶ General University Hospital in Prague, Czech Republic; ¹⁷ University Medical Centre Ljubljana, Slovenia; ¹⁸ Universitätsklinikum Ulm, Germany; ¹⁹ Semmelweis University, Hungary; ²⁰ Universitätsklinikum Bonn, Germany; ²¹ Hospital Universitari Vall d'Hebron, Spain; ²² Stichting Katholieke Universiteit, doing business as Radboud University Medical Center Nijmegen, Netherlands; ²³ Motol University Hospital, Czech Republic

Endorsement process:

• Consent to endorse documents by whole disease group – 16.06.2020





REFERENCES

- **PLA2G6-Associated Neurodegeneration**. Allison Gregory, Manju A Kurian, Eamonn R Maher, Penelope Hogarth, Susan J Hayflick, Margaret P Adam, Holly H Ardinger, Roberta A Pagon, Stephanie E Wallace, Lora JH Bean, Karen Stephens, Anne Amemiya, editors. In: GeneReviews[®] [Internet]. Seattle (WA): University of Washington, Seattle; 1993–2020. 2008 Jun 19 [updated 2017 Mar 23].

- Mitochondrial Membrane Protein-Associated Neurodegeneration. Allison Gregory, Monika Hartig, Holger Prokisch, Tomasz Kmiec, Penelope Hogarth, Susan J Hayflick, Margaret P Adam, Holly H Ardinger, Roberta A Pagon, Stephanie E Wallace, Lora JH Bean, Karen Stephens, Anne Amemiya, editors. In: GeneReviews[®] [Internet]. Seattle (WA): University of Washington, Seattle; 1993–2020. 2014 Feb 27.

- <u>Beta-Propeller Protein-Associated Neurodegeneration</u>. Allison Gregory, Manju A Kurian, Tobias Haack, Susan J Hayflick, Penelope Hogarth, Margaret P Adam, Holly H Ardinger, Roberta A Pagon, Stephanie E Wallace, Lora JH Bean, Karen Stephens, Anne Amemiya, editors. In: GeneReviews[®] [Internet]. Seattle (WA): University of Washington, Seattle; 1993–2020. 2017 Feb 16.

Due to the regulations on the protection of intellectual property, we are not allowed to print the actual therapeutic algorithm in this document.





https://ec.europa.eu/health/ern en



Network Neurological Diseases (ERN-RND)

 Coordinator Universitätsklinikum Tübingen – Deutschland

Co-funded by the European Union



www.ern-rnd.eu