

Malignant



Hyperthermia



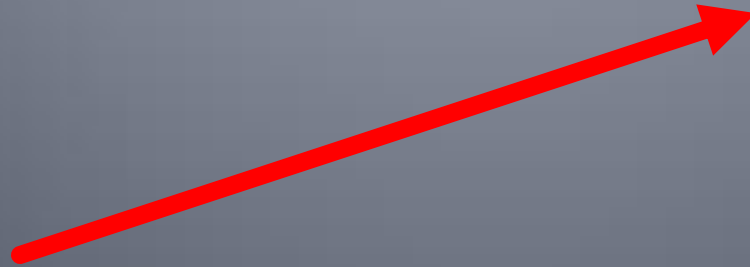
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Disclosures.....



Lecture Overview

✓ ***WHAT IS MH?***

✓ ***LINK TO RYR1***

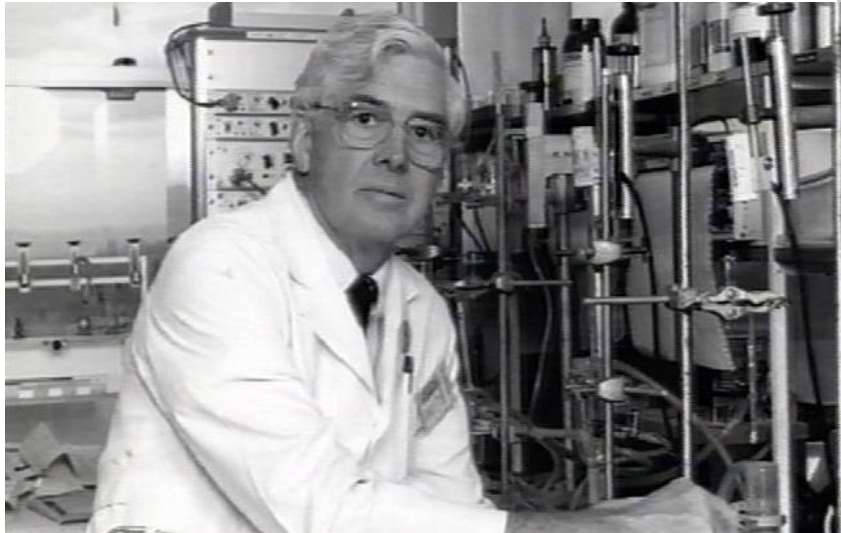
✓ ***MHAUS AND NAMHR***

✓ ***HOW TO HAVE GENERAL
ANESTHESIA AND NOT GET MH***

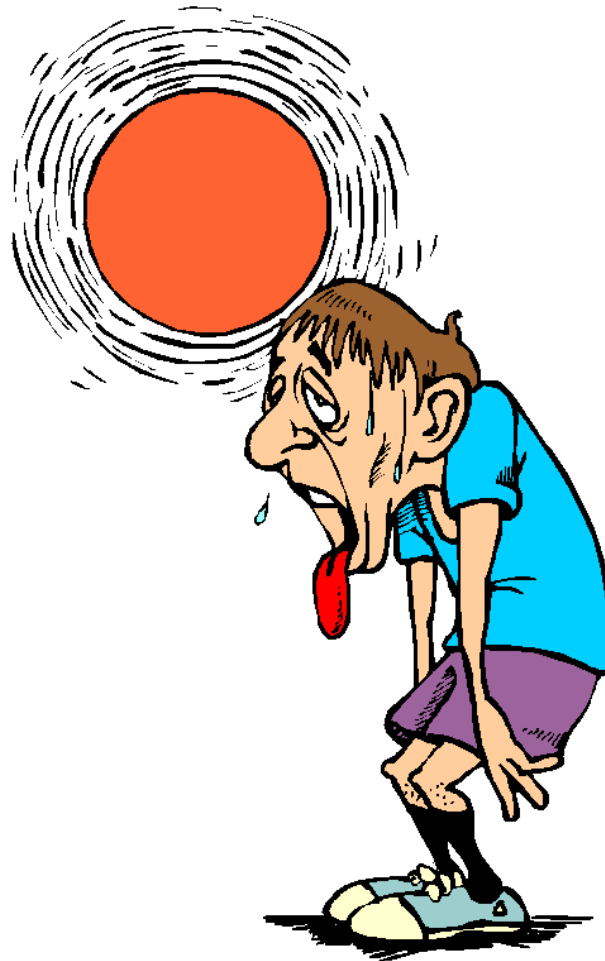


Dr. Michael Denborough

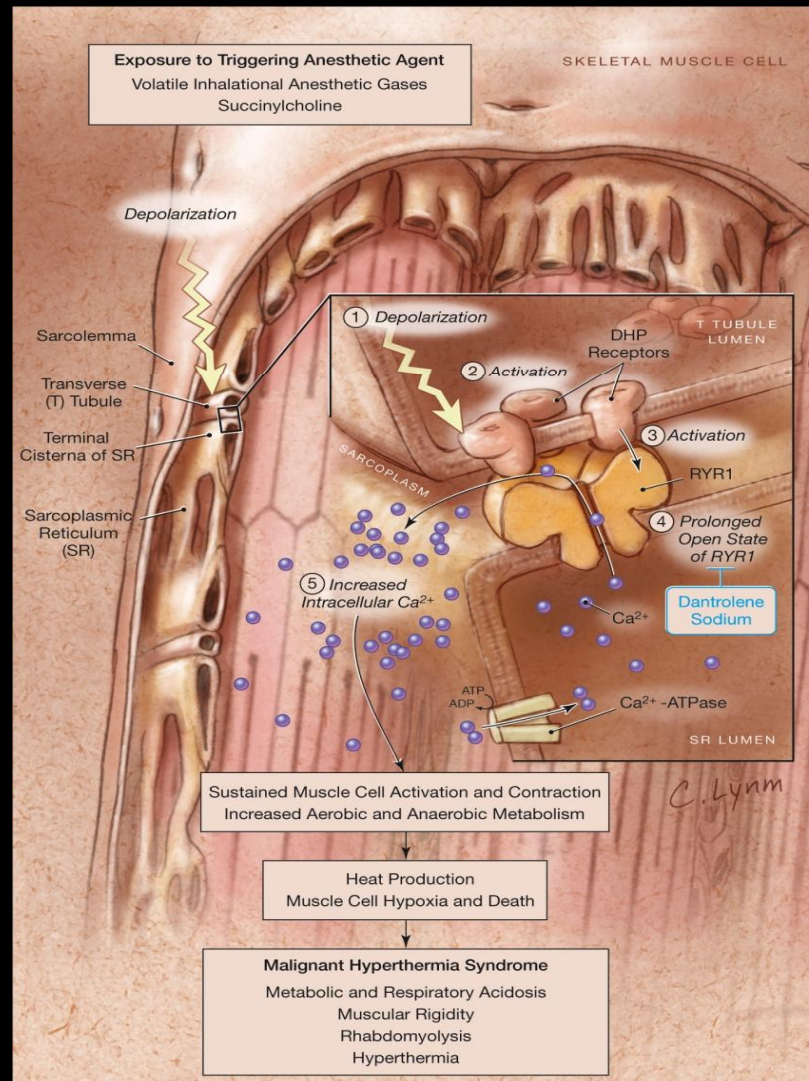
1929 - 2014



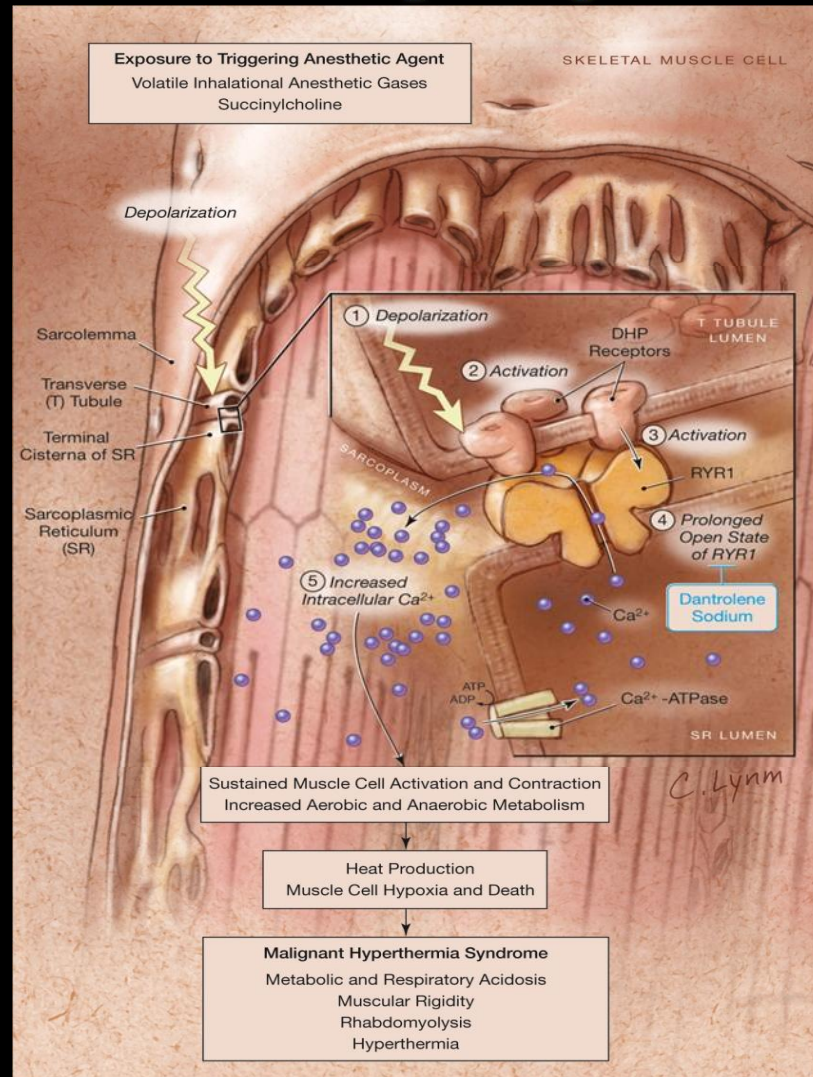
Important MH Principles



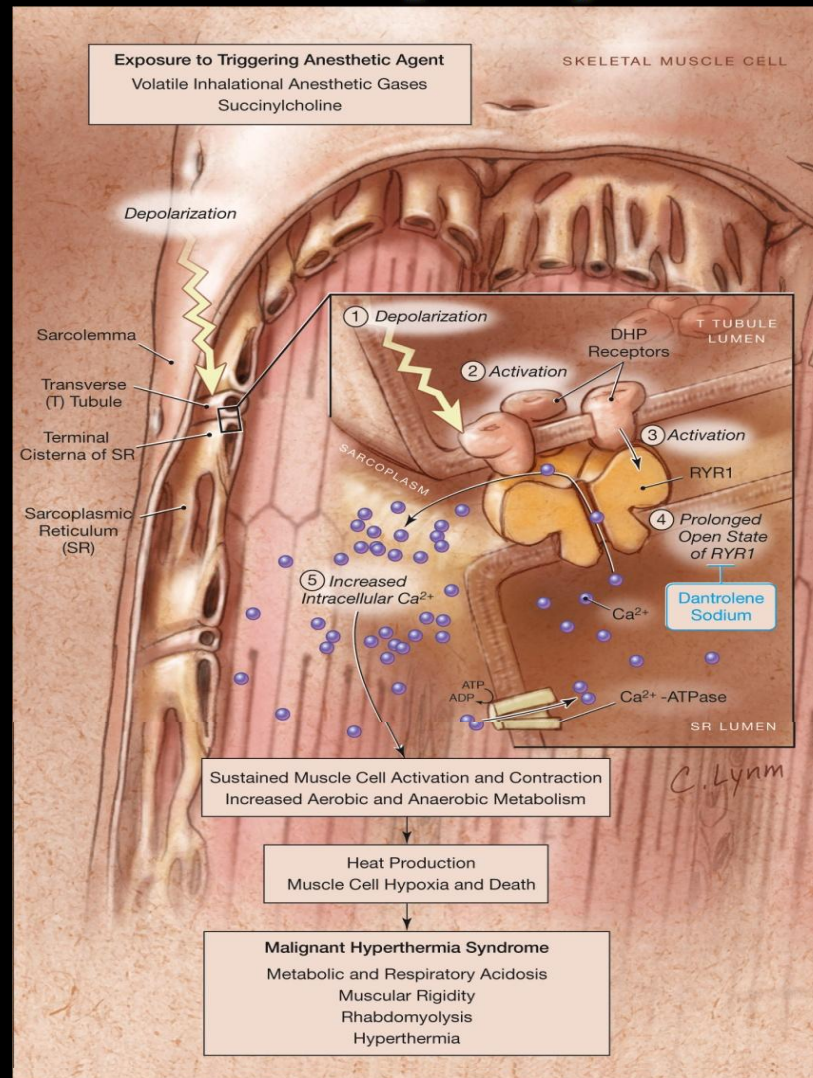
MH Pathophysiology



MH Pathophysiology

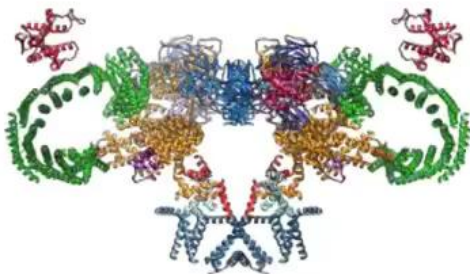


MH Pathophysiology

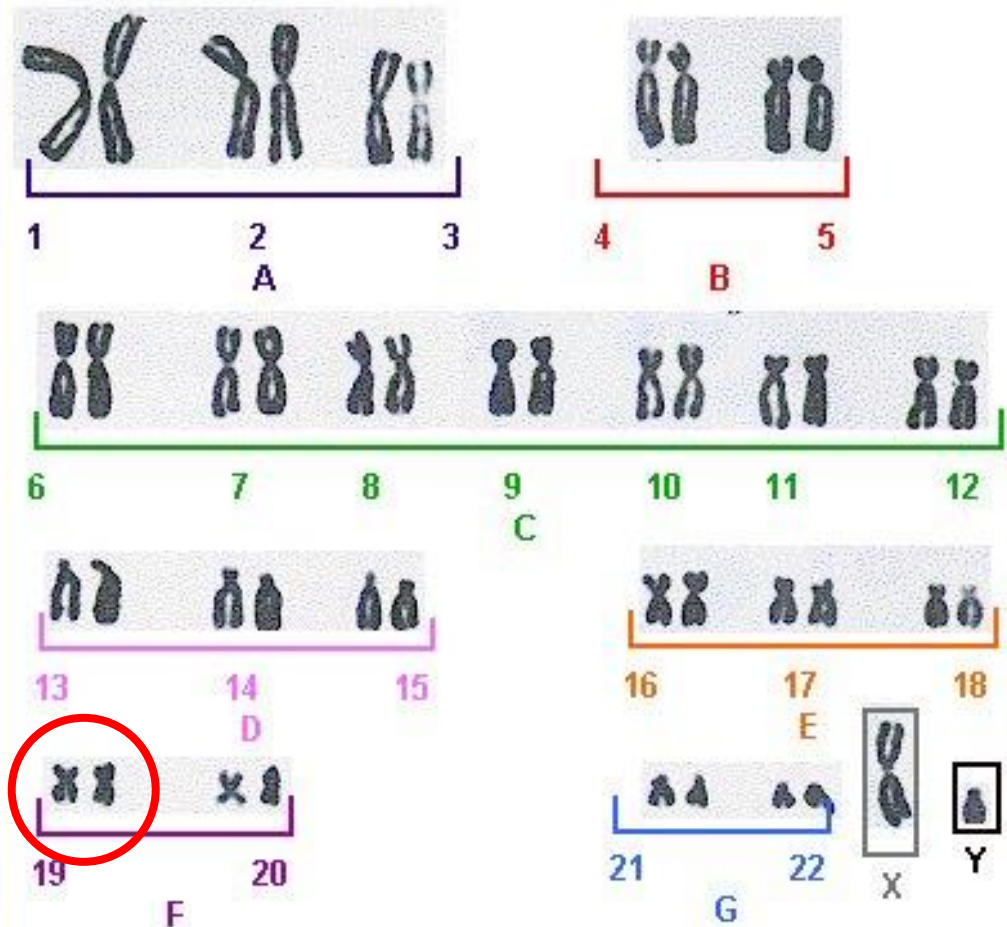


Genetic Basis of MH

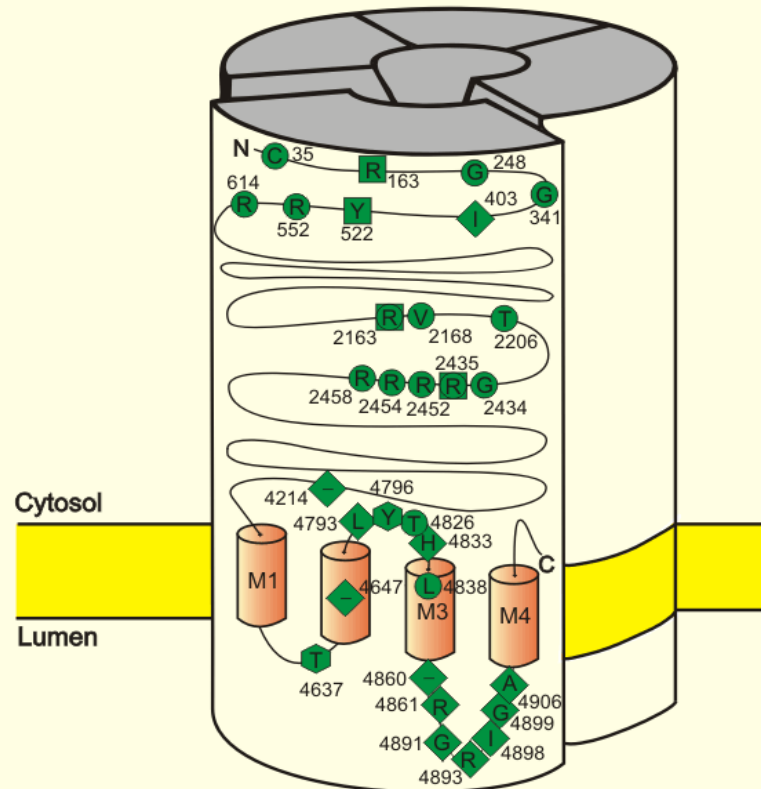
RYR1



3D ryanodine from Max Planck Society



Ryanodine Receptor



- malignant hyperthermia (MH)
- malignant hyperthermia/central cores (MH/CC)
- ◆ central core disease (CCD)
- ⬡ central core disease with nemaline rods (CCD/n.rods)

— deletion

WWW.MHAUS.ORG



WWW.MHREG.ORG

Welcome



IF YOU NEED TO MANAGE AN MH CRISIS RIGHT NOW:

Please Call MH Hotline at:

1-800-644-9737

Be prepared to give your name, number, facility and email, in the event the call is dropped

(outside of the US: **209-417-3722**) and view our [Managing an MH Crisis Page](#) .



[MH Hotline Information](#)

As a medical professional, knowing about Malignant Hyperthermia is important to saving lives. MHAUS can help you prepare for an MH emergency, manage a crisis and develop your skills to ensure that you are doing the very best you can for your patients. Use our links below, and if you are still unable to find exactly what you need, you may also search our website using the search box in the upper right of any page.



[How To Be Prepared](#)



[Managing A Crisis](#)



[After A Crisis](#)



[MHAUS Recommendations](#)



[Professional Development](#)



[Frequently Asked Questions](#)



[NMS Information Service](#)



[MHAUS Website Directory](#)

Patients And Families

Welcome

Malignant Hyperthermia raises many questions, for both the patient, and their families. We're here to help! From basic information about MH, to testing for MH and support, we offer many resources for MH susceptible individuals and their families, to ensure that you are never faced with a crisis. Use our links below, and if you are still unable to find exactly what you need, you may also search our website using the search box in the upper right of any page.



[Learn About MH](#)



[I Have MH - Now What?](#)



[Patient Liaison Committee](#)



[ID Tag Program](#)



[Testing for MH](#)



[Find a Prepared Facility](#)



[NMS Information Service](#)



[Sample Letters](#)



[MHAUS Website Directory](#)

MHAUS



About 500-600 Calls per year: 2015



Awake MH?

Identical *de novo* Mutation in the Type 1 Ryanodine Receptor Gene Associated with Fatal, Stress-induced Malignant Hyperthermia in Two Unrelated Families

Linda Groom, B.Sc.,* Sheila M. Muldoon, M.D.,† Zhen Zhi Tang, Ph.D.,‡
Barbara W. Brandom, M.D.,§ Munkhuu Bayarsaikhan, Ph.D.,|| Said Bina, Ph.D.,#
Hee-Suk Lee, M.D.,** Xing Qiu, Ph.D.,†† Nyamkhishig Sambughin, Ph.D.,‡‡
Robert T. Dirksen, Ph.D. §§

Anesthesiology 2011; 115:938

7 reported cases



How Can You be Anesthetized Safely?



Take-Home Points

- BAD NEWS: If you are here, you are susceptible to MH
- GOOD NEWS: If you are here, you are protected
- **If you have had MH, please enter the registry**
- Please join MHAUS or our Facebook Group



Being MH Susceptible...

No Anesthesia Gas



Being MH Susceptible...

Intravenous only



Being MH Susceptible...

No Succinylcholine



Being MH Susceptible...

All other muscle relaxants are OK



Anesthetizing the MH Susceptible Patient



Being MH Susceptible...

YOU.....

- Should wear a Medic-Alert Bracelet
- Do not need dantrolene before surgery
- Do not need a biopsy before surgery
- Do not need to stay longer after surgery
- Can have your surgery in any type of hospital



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