



Emergency Medical Response for Adrenal Insufficiency

Did you know? In the majority of states, EMS protocols do not address the issue of adrenal

insufficiency, nor do they allow emergency medical response personnel to provide immediate, appropriate treatment in case of adrenal crisis, *even when* affected individuals have:

- medical ID indicating "adrenal insufficiency";
- doctor's orders that detail medical treatment protocols for adrenal crisis;
- properly labeled medications.

CARES Foundation is looking to change this through our EMS campaign. The goals of this initiative are:

1. **Training, protocols and medications** necessary to provide immediate, appropriate medical response for the adrenally insufficient in place in every state
2. Addition of **Solu-Cortef®** to EMS formularies across the nation

Quick Facts

- Adrenal insufficiency affects an estimated **1 in 1500** including those affected by:
 - Congenital Adrenal Hyperplasia (CAH)
 - **Addison's Disease**
 - Chronic disorders treated with long-term glucocorticoids
- **Every child** in the United States is screened for CAH at birth
- **75%** of CAH-affected individuals wear medical alert identification
- **Solu-Cortef®**
 - Drug of choice in treating adrenal insufficiency in emergent situations
 - Cost: **<\$7** per 100mg, 2ml Act-O-Vial
 - Long, stable shelf-life
 - Safe
 - Onset of action: **minutes**
- **Mortality** is **24%** - preventable sudden deaths continue to occur



Emergency Medical Response for Adrenal Insufficiency

Did you know? In the majority of states, EMS protocols do not address the issue of adrenal

insufficiency, nor do they allow emergency medical response personnel to provide immediate, appropriate treatment in case of adrenal crisis, *even when* affected individuals have:

- medical ID indicating "adrenal insufficiency";
- doctor's orders that detail medical treatment protocols for adrenal crisis;
- properly labeled medications.

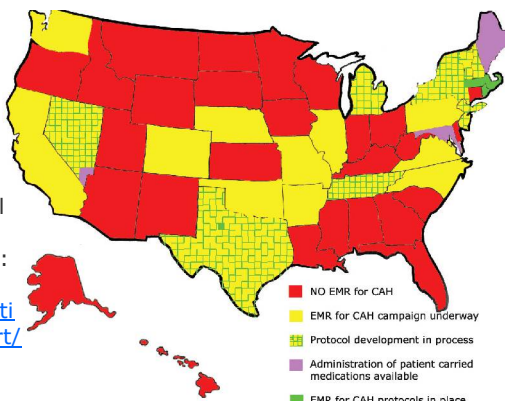
CARES Foundation is looking to change this through our EMS campaign. The goals of this initiative are:

1. **Training, protocols and medications** necessary to provide immediate, appropriate medical response for the adrenally insufficient in place in every state
2. Addition of **Solu-Cortef®** to EMS formularies across the nation

Quick Facts

- Adrenal insufficiency affects an estimated **1 in 1500** including those affected by:
 - Congenital Adrenal Hyperplasia (CAH)
 - **Addison's Disease**
 - Chronic disorders treated with long-term glucocorticoids
- **Every child** in the United States is screened for CAH at birth
- **75%** of CAH-affected individuals wear medical alert identification
- **Solu-Cortef®**
 - Drug of choice in treating adrenal insufficiency in emergent situations
 - Cost: **<\$7** per 100mg, 2ml Act-O-Vial
 - Long, stable shelf-life
 - Safe
 - Onset of action: **minutes**
- **Mortality** is **24%** - preventable sudden deaths continue to occur

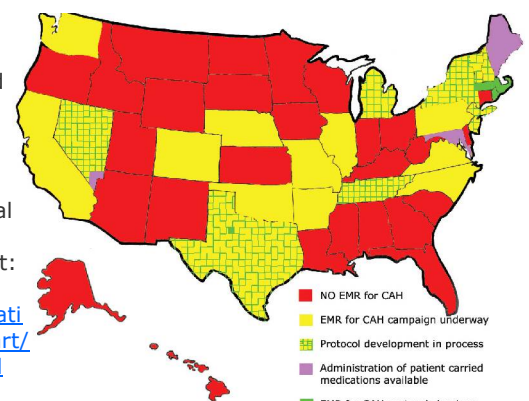
As of July 2010, Rhode Island and Massachusetts have protocols in place statewide. The campaign goes on in several states. To learn more, please visit: http://www.caresfoundation.org/productcart/pc/ems_cah.html



2414 Morris Avenue, Suite 110, Union NJ 07083
Phone: 908-364-0272 • Fax: 908-686-2019 • www.caresfoundation.org

(over)

As of July 2010, Rhode Island and Massachusetts have protocols in place statewide. The campaign goes on in several states. To learn more, please visit: http://www.caresfoundation.org/productcart/pc/ems_cah.html



2414 Morris Avenue, Suite 110, Union NJ 07083
Phone: 908-364-0272 • Fax: 908-686-2019 • www.caresfoundation.org

(over)

Emergency Medical Response for Adrenal Insufficiency Resources

Protocols

- State of **Rhode Island** and Providence Plantations Department of Health, Division of Medical Emergency Services. "State of Rhode Island and Providence Plantations Prehospital Care Protocols and Standing Orders." p. 146. March 1, 2008: http://www.health.state.ri.us/hsr/professions/ems/downloads/RIProtocols_Mar08.pdf
- **Massachusetts** Emergency Medical Services Pre-Hospital Treatment Protocols. March 1, 2010. http://www.mass.gov/Eeohhs2/docs/dph/emergency_services/treatment_protocols_803.pdf
- **New York** State Emergency Medical Advisory Committee (SEMAC). "Adult and Pediatric ALS Protocol Changes." December 2009. <http://www.caresfoundation.org/productcart/pc/EMS/SEMACSOLUCORTEF.pdf>

Training

- **Adrenal Crisis and EMS**—continuing education credit module available through University of New Mexico EMSC Online Continuing Education Program: <http://hsc.unm.edu/emersed/PED/emsc/training/adrenal/adrenal.html>.
- **Emergency Instructions—Caring for Your Child with Congenital Adrenal Hyperplasia in Times of Stress.** Available online at: <http://www.caresfoundation.org/productcart/pc/images/EmergencyInstructions.pdf>

References

- Stanhope R. "Management of Adrenal Crisis – How Should Glucocorticoids be Administered?" *Journal of Pediatric Endocrinology & Metabolism* 2003; 16: 1099-1100.
- Kliegman RM, Behrman RE, Jenson HB, and Stanton B. ed. "Chapter 576- Adrenocortical Insufficiency" Kliegman: *Nelson Textbook of Pediatrics*. Saunders: 2007.
- Lim YJ, Batch JA, Warne GL. "Adrenal 21-hydroxylase deficiency in childhood: 25 years' experience." *J Paediatr Child Health* 1995;31:222-7.
- Taback SP, Dean HJ and Members of the Canadian Growth Hormone Advisory Committee. "Mortality in Canadian Children with Growth Hormone (GH) Deficiency Receiving GH Therapy 1967~1992." *Journal of Clinical Endocrinology and Metabolism* 1996; Vol 81, No. 5: 1693-1696.
- Swerdlow AJ, Higgins CD, Brook CGD, et al. "Mortality in patients with congenital adrenal hyperplasia: a cohort study." *J Pediatr* 1998;133:516-20.
- Speiser PW, *et al.* "Congenital adrenal hyperplasia due to steroid 21-hydroxylase deficiency: An Endocrine Society clinical practice guideline." *J Clin Endocrinol Metab* 2010;95:4133-4160.
- Joint LWPES/ESPE CAH Working Group. "Consensus Statement on 21-Hydroxylase Deficiency from The Lawson Wilkins Pediatric Endocrine Society and The European Society for Paediatric Endocrinology." *The Journal of Clinical Endocrinology & Metabolism*, 87(9):4048-4053, 2002.

Emergency Medical Response for Adrenal Insufficiency Resources

Protocols

- State of **Rhode Island** and Providence Plantations Department of Health, Division of Medical Emergency Services. "State of Rhode Island and Providence Plantations Prehospital Care Protocols and Standing Orders." p. 146. March 1, 2008: http://www.health.state.ri.us/hsr/professions/ems/downloads/RIProtocols_Mar08.pdf
- **Massachusetts** Emergency Medical Services Pre-Hospital Treatment Protocols. March 1, 2010. http://www.mass.gov/Eeohhs2/docs/dph/emergency_services/treatment_protocols_803.pdf
- **New York** State Emergency Medical Advisory Committee (SEMAC). "Adult and Pediatric ALS Protocol Changes." December 2009. <http://www.caresfoundation.org/productcart/pc/EMS/SEMACSOLUCORTEF.pdf>

Training

- **Adrenal Crisis and EMS**—continuing education credit module available through University of New Mexico EMSC Online Continuing Education Program: <http://hsc.unm.edu/emersed/PED/emsc/training/adrenal/adrenal.html>.
- **Emergency Instructions—Caring for Your Child with Congenital Adrenal Hyperplasia in Times of Stress.** Available online at: <http://www.caresfoundation.org/productcart/pc/images/EmergencyInstructions.pdf>

References

- Stanhope R. "Management of Adrenal Crisis – How Should Glucocorticoids be Administered?" *Journal of Pediatric Endocrinology & Metabolism* 2003; 16: 1099-1100.
- Kliegman RM, Behrman RE, Jenson HB, and Stanton B. ed. "Chapter 576- Adrenocortical Insufficiency" Kliegman: *Nelson Textbook of Pediatrics*. Saunders: 2007.
- Lim YJ, Batch JA, Warne GL. "Adrenal 21-hydroxylase deficiency in childhood: 25 years' experience." *J Paediatr Child Health* 1995;31:222-7.
- Taback SP, Dean HJ and Members of the Canadian Growth Hormone Advisory Committee. "Mortality in Canadian Children with Growth Hormone (GH) Deficiency Receiving GH Therapy 1967~1992." *Journal of Clinical Endocrinology and Metabolism* 1996; Vol 81, No. 5: 1693-1696.
- Swerdlow AJ, Higgins CD, Brook CGD, et al. "Mortality in patients with congenital adrenal hyperplasia: a cohort study." *J Pediatr* 1998;133:516-20.
- Speiser PW, *et al.* "Congenital adrenal hyperplasia due to steroid 21-hydroxylase deficiency: An Endocrine Society clinical practice guideline." *J Clin Endocrinol Metab* 2010;95:4133-4160.
- Joint LWPES/ESPE CAH Working Group. "Consensus Statement on 21-Hydroxylase Deficiency from The Lawson Wilkins Pediatric Endocrine Society and The European Society for Paediatric Endocrinology." *The Journal of Clinical Endocrinology & Metabolism*, 87(9):4048-4053, 2002.