

Red Tide: Integrated Research and Education Activities

Conducted for the

Aquatic Toxins Program
Division of Environmental Health
Florida Department of Health

under

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by

Mote Marine Laboratory
Sarasota, Florida

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Personnel

- **Barbara Kirkpatrick, EdD RRT: Lead PI**
- **Dana Dalpra, BS: Data Collection, Participant Liaison**
- **Richard Pierce, PhD; Chief Environmental Scientist**
- **Michael Henry, MS: Laboratory and Field Work**

Integrated Activities

- 1. Outreach and Education to the Medical Community**
- 2. Emergency Room Use During Red Tides and no Red Tides**
- 3. Ten day Follow up study**
- 4. Monitoring Human Response to Inland Toxins Study**

1. ER Study: Objectives

- **Assess if there is increased use of the Emergency Room at Sarasota Memorial Hospital during an onshore red tide compared to when there is no red tide**
- **Assess if there is an increased frequency of a specific diagnosis code during red tide (asthma, sinusitis, pneumonia, etc)**

1. ER Study: Accomplishments

- **Sarasota Memorial Hospital (SMH) and Florida Department of Health Internal Review Board (IRB) approval**
- **Raw data obtained through SMH Decision Support Services**
- **Data analysis meeting conducted**
- **Additional denominator data requested from SMH**

2. Medical Outreach: Objectives

- **Update health care professionals in communities that have onshore red tide blooms regarding recent research findings**
 - **Neurotoxic shellfish poisoning**
 - **Exposure via inhalation of brevetoxins**

2. Education and Outreach to the Medical Community: Accomplishments

- Presentations to:
 - Florida Society for Respiratory care State Seminar
 - Sarasota Memorial Hospital Physician Grand Rounds
 - Florida Society for Respiratory Care, Lakeland, September
 - Manatee Memorial Hospital

2. Education and Outreach to the Medical Community: Accomplishments

- Presentations to:
 - Florida Society for Respiratory Care, Bayfront Medical Center
 - Tampa Medical Center
 - Manatee County Health Department
 - Sarasota County Health Department
 - Sarasota Memorial Hospital Nursing and Allied Health

3. Ten day Follow up study: Objectives

- Investigate if Sensitive Population Study participants have continued health effects after 1 hour, acute exposure to inhaled brevetoxins
 - Symptom Diary X 10 days
 - Peak flow monitoring X 10 days

3. Ten day Follow up study: Accomplishments

- IRB approval from University of Miami and FL DOH
- Non-exposure component
 - completed April 30, May 1, May 2
 - 85 participants

4. Inland Monitoring of People and Air: Objectives

- Assess the transport of toxins inland using high volume air samplers
- Monitor people for symptoms and peak flow changes concurrent with air monitoring

4. Inland Monitoring of People and Air: Accomplishments

- University of Miami and FL DOH IRB approval
- Collaboration with FL DOH for GIS assistance in the project
- Collaboration with Dr. Richard Pierce and Michael Henry, Mote Marine Lab, for air sampling strategy



Florida Department of Health Aquatic Toxins Program

Future Direction

- **Complete data analysis for Emergency Room Study**
- **Chronic follow up study and Inland monitoring conducted during onshore red tide for exposure data**
- **Continue outreach to the medical community and also develop materials and give presentations to the general public**

Synergism & Collaborations

- **Provide new information regarding health impacts of onshore red tides**
 - information for medical practitioners on appropriate treatment for inhaled red tide toxins.
- **Highly synergistic and collaborative with the Florida Department of Health, University of Miami, Mote Marine Lab, University of North Carolina, Wilmington and the Centers for Disease Control and Prevention.**

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