

Testimony to Subcommittee on Investigations & Oversight
House of Representatives Committee on Science, Space, and Technology
Field Hearing, October 15, 2019

Introduction

Good morning and thank you to Chairwoman Sherrill and the Members of the Subcommittee for inviting me to speak on the health effects and implications of lead exposure, with specific focus on drinking water. As a pediatric toxicologist and national expert on the management of lead poisoning in both adults and children, I have seen firsthand and managed many patients with the health effects of excess lead exposure. In addition, I have advised in a medical capacity in several drinking water lead contamination incidents, in healthcare facilities, schools, and municipalities. As director of the state's Poison Control Center, our 24/7/365 hotline manages many calls regarding treatment and prevention of lead poisoning, and I serve as the medical consultant to the State of New Jersey for all children requiring hospitalization for significantly elevated blood lead levels.

Executive Summary

- 1) The health effects of lead are proportional to elevations in blood lead level, but even small elevations in blood lead level are associated with intellectual deficits in young children that may carry into adulthood
- 2) In 2012, in response to new scientific evidence repeatedly demonstrating this fact, the Centers for Disease Control (CDC) has lowered the blood lead level (BLL) threshold for concern from 10 micrograms per deciliter (mcg/dL) to 5 mcg/dL, and it is anticipated this level will be lowered again in the future.
 - a. BLL is negatively correlated with IQ, and the effects are steepest at the lowest levels of elevation.
 - b. In children with BLL < 10mcg/dL, studies estimate a loss of seven IQ points. Further IQ loss is seen as levels rise beyond 10 mcg/dL.
 - c. The threshold was lowered in response to studies demonstrating diminished IQ, and also in response to the decline in blood lead levels in the general population.
- 3) The effects of drinking water lead elevations on blood lead levels are variable, but several cities with elevated water lead levels demonstrate a concomitant rise in the number of children whose BLLs exceeded the CDC threshold.
 - a. At the time of the Washington, DC water contamination incident, the CDC threshold was 10 mcg/dL.
 - b. At the time of the Flint, MI water contamination incident, the CDC threshold was 5 mcg/dL.
 - c. Both cities had demonstrated increases in proportion of children with levels above the threshold.
- 4) Statistics in New Jersey and greater Newark:
 - a. The State of New Jersey has higher lead levels than the national average.

- b. The City of Newark exceeds every other large NJ municipality in the number of young children with elevated BLLs, and had the highest number of new cases in the most recent report. The role of drinking water in these elevations has not been established.
- 5) For every child with an elevated BLL, resources must be mobilized at the local and state health department level to determine and mitigate the source of exposure.
- 6) Preserving and improving the drinking water infrastructure to prevent and diminish further lead exposure is essential to mitigate adverse health effect in our children and prevent overwhelming existing systems in place to assist these children and their families.
- 7) Strategies to prevent lead exposure vary depending on the source of exposure, but include minimizing lead-based paint dust, removal of imported lead-contaminated toys, foods, and cookware, elimination of cultural sources of lead such as contaminated cosmetics and alternative medicines, and use of bottled water in the event of a drinking water contamination. Materials can be obtained from NJPIES or any regional Poison Control Center for more information.

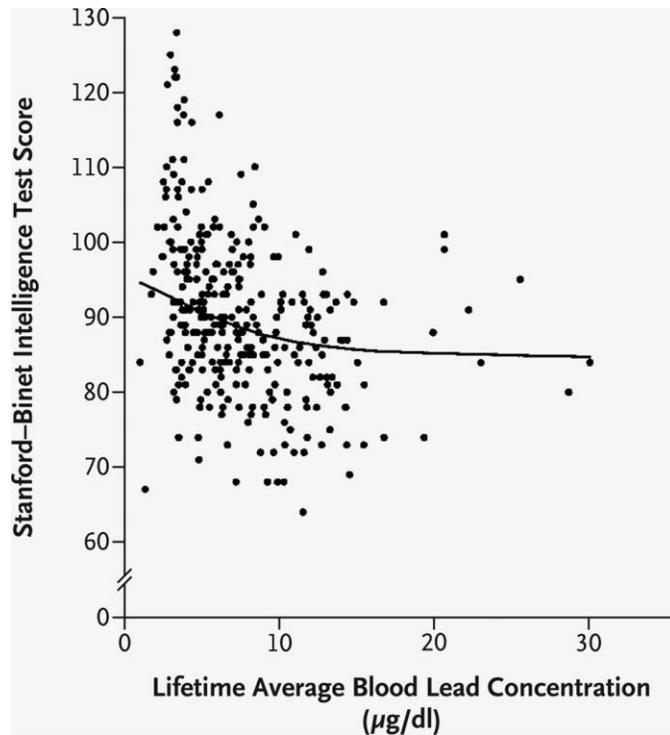
Testimony

Lead is an element which is ubiquitous in our environment, and exposure comes from a variety of sources. Much has been done to remediate these sources, including the prohibition of leaded automotive fuel, residential lead paint, and lead-soldered canned food. These measures have brought the average blood lead level in the population down significantly, however sources remain, particularly in the environment of the young child, which pose a persistent hazard. These are predominantly deteriorating residential lead paint in older homes, industrial contamination of soil, cultural sources (imported food, cosmetics, toys, and folk medicine), parental occupational hazards, and drinking water.

The majority of cases of lead poisoning which are managed through the New Jersey Poison Information and Education System (NJPIES), known to the public as the New Jersey Poison Control Center, are in children exposed to residential paint, who suffer adverse developmental consequences. These children have blood lead levels far above the CDC threshold of concern of 5 mcg/dL, and demonstrate developmental delays, attention deficit and hyperactivity, behavioral and cognitive challenges, school performance and reading readiness deficits, and conduct disorder. Children in this group usually have BLLs over 45 mcg/dL and are often admitted to the hospital for chelation therapy, which removes lead from their blood but has uncertain benefit in the aforementioned issues, which may be permanent.

However, it has become increasingly clear that even very low-level elevations in blood lead are associated with cognitive, intellectual and behavioral deficits in the young child. This has been demonstrated in the work by Canfield in the New England Journal of Medicine, who concluded that while a blood lead level >10 mcg/dL was associated with a quantifiable IQ loss per BLL rise, in children with BLL 1-10 mcg/dL the IQ drop-off per point of BLL was much steeper. This has been demonstrated by several other authors as well.

Fig 1. IQ as a function of Lifetime Average Blood Lead Concentration. From: Canfield RL, Henderson CR, Cory-Slechta DA, et al. Intellectual impairment in children with blood lead concentrations below 10 ug per deciliter. N Engl J Med 2003; 348:1517-1526.



This has led to a re-evaluation of low-level lead exposure. The Centers for Disease Control previously set the threshold of concern for blood lead level at 10 mcg/dL, but in 2012 the threshold was lowered to 5 mcg/dL. This was a reflection of the notion that there is no safe level of lead in young children, and also in response to population-based data in which 97.5% of the population have lead levels below 5.8 mcg/dL.

Low-level blood lead elevations are precisely what has been reported with lead-contaminated municipal drinking water. Both Washington, DC and Flint, Michigan demonstrated an elevated proportion of children with BLLs over the level of concern. This correlated in particular with high-risk regions within the cities for elevated water lead. Both Drs. Edwards and Hanna-Attisha demonstrated that, after drinking water contamination was detected, the prevalence of children with levels over the threshold doubled or even tripled. Notably, the magnitude of the blood lead level rise did not rise to the chelation threshold of 45 mcg/dL in either population.

Figure 2. Temporal variation of lead in water (90th percentile water lead) and key events related to lead exposure in Washington, DC (top). Trends in Elevated Blood Lead (EBL) incidence for children aged e1.3 years (bottom). From Edwards M, Triantafyllidou S, Best D. Elevated blood lead in young children due to lead-contaminated drinking water: Washington, DC, 2001-2004. *Environ Sci Technol* 2009; 43:1618-1623.

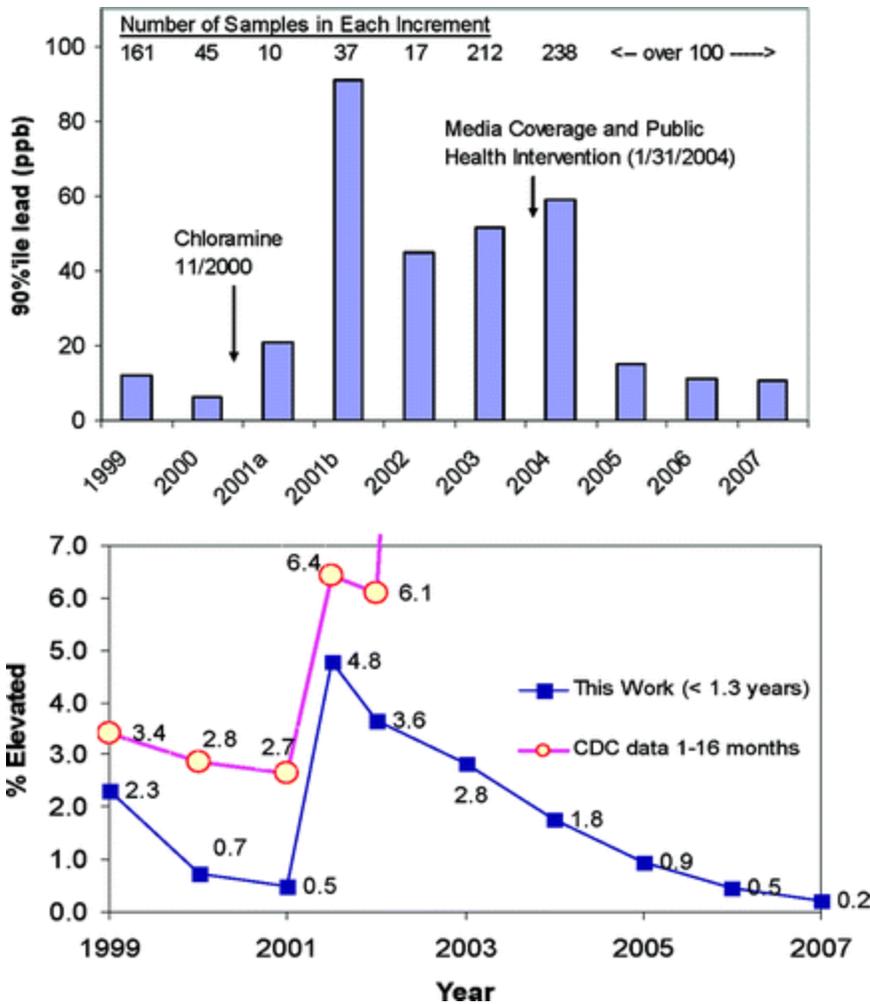
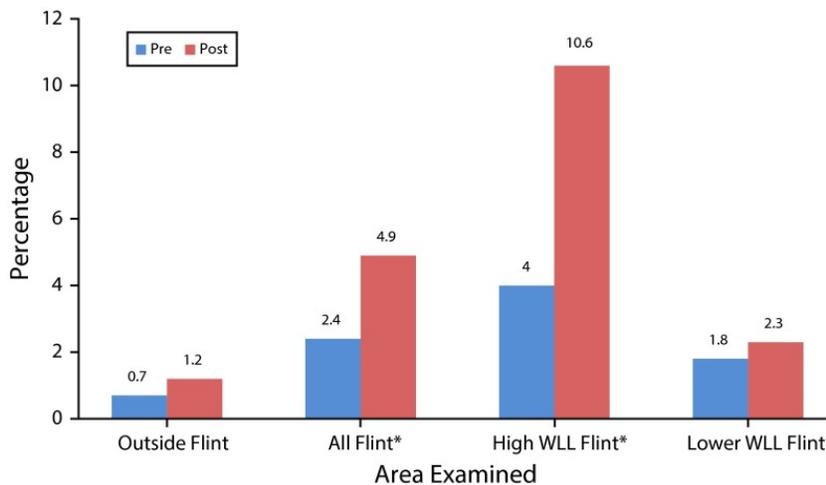


Fig 3. Comparison of Elevated Blood Lead Level Percentage, Before (Pre) and After (Post) Water Source Change from Detroit-Supplied Lake Huron Water to the Flint River. From Hanna-Attisha M, LaChance J, Sadler RC, Champney Schnepf A. Elevated blood lead levels in children associated with the Flint drinking water crisis: a spatial analysis of risk and public health response. *Am J Public Health* 2016; 106:283-90.



The effects of lead-contaminated drinking water can feasibly be expected to cause low-level blood lead elevations in many children, and subsequent loss of IQ. It is not, however, likely to cause severe elevations, require hospitalization, or be immediately threatening to life and health to any person. This is a common myth which complicates risk communication. Already exposed populations require reassurance yet careful guidance about how to best prevent further lead exposure in a child's environment. Recognition and anticipation of developmental challenges as they arise is also essential.

According to the 2017 report, in the State of New Jersey, average BLLs are higher than the national average (3.4 mcg/dL vs 1.8 mcg/dL), and the 97.5th percentile mark is 8.0 mcg/dL compared to the national 5.8 mcg/dL. These elevations are largely concentrated in urban areas, where many of the common sources of lead exposure are most prevalent. Moreover, the City of Newark has the greatest absolute number of children with elevated BLLs compared to other municipalities, and in the most recent report, had the highest number of new cases of elevated BLLs. The sources vary, but most cases can be attributed at least in part to residential lead paint. The contribution of drinking water is not clear, and more recent statistics are not yet available. Newark has a number of resources in place to address this disparity, including being the only NJ city with funded lead-safe relocation housing and a Partnership for Lead-Safe Children.

Any time a child has an elevated BLL within the State of New Jersey, local and state public health resources are deployed to determine and mitigate the source of exposure. This involves multiple property inspections, nursing visits, blood lead level testing, and case management to assist the family whose home may need remediation. This may also involve relocation housing, and the cost of remediation is significant. As programs struggle to meet the growing demands of risk assessment and mitigation, this predictably increases in the context of drinking water contamination. For example, at the New Jersey Poison Center our caseload of lead-exposed patients more than doubled in the past 8 months to over 300 calls, largely in response to the Newark water concern.

Removing the contribution of drinking water is imperative if the systems in place are to be able to respond to this public health threat. Other sources still predominate in more severely affected children, and the prioritization of lead hazard reduction is complex. The role of deteriorating housing stock must be emphasized and taken into account. However, given the scientific evidence that there is no safe level of lead for a child's environment, we must envision a future where our water, and our homes, are lead free.

References

Canfield RL, Henderson CR, Cory-Slechta DA, et al. Intellectual impairment in children with blood lead concentrations below 10 ug per deciliter. *N Engl J Med* 2003; 348:1517-1526.

Lanphear BP, Hornung R, Khoury J, et al. Low-level environmental lead exposure and children's intellectual function: an international pooled analysis. *Environ Health Perspect* 2005; 113:894-9.

Hanna-Attisha M, LaChance J, Sadler RC, Champney Schnepf A. Elevated blood lead levels in children associated with the Flint drinking water crisis: a spatial analysis of risk and public health response. *Am J Public Health* 2016; 106:283-90.

Edwards M, Triantafyllidou S, Best D. Elevated blood lead in young children due to lead-contaminated drinking water: Washington, DC, 2001-2004. Environ Sci Technol 2009; 43:1618-1623.

Centers for Disease Control and Prevention, 2012. Childhood Blood Lead Levels in Children Aged <5 Years- United States, 2009-2014. Morbidity and Mortality Weekly Report, 2017: 66.

“Childhood Lead Exposure in New Jersey: Annual Report, State Fiscal Year 2017.” NJ Department of Health, Office of Local Public Health, Childhood Lead Program.

<https://www.state.nj.us/health/childhoodlead/documents/reports/childhoodlead2017.pdf>

Offered by:

Diane P. Calello, MD

Executive and Medical Director, New Jersey Poison Information and Education System (NJPIES)

Associate Professor of Emergency Medicine, Rutgers New Jersey Medical School

Newark, NJ

CURRICULUM VITAE

DATE: July 2, 2019

NAME: Diane P. Calello, MD, FAAP, FACMT, FAACT

PRESENT TITLE: Executive and Medical Director
New Jersey Poison Information and Education System
New Jersey Medical School, Rutgers Biomedical and Health Sciences
Newark, NJ

HOME ADDRESS: 2 Martin Court, Martinsville, NJ

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Cell 973-202-9459
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diane.calello@rutgers.edu

CITIZENSHIP: US

EDUCATION:

- A. The College of William and Mary in Virginia
Williamsburg, VA
Bachelor of Arts, English Literature May 1995
- B. UMDNJ – New Jersey Medical School University or College
Newark, NJ
M.D. June 1999

POSTGRADUATE TRAINING:

- A. Internship and Residency in Pediatrics
The Children's Hospital of Philadelphia
July 1999- June 2002
- B. Fellowship in Pediatric Emergency Medicine
The Children's Hospital of Philadelphia
University of Pennsylvania School of Medicine
July 2002- June 2007 (inclusive of concurrent fellowship in Toxicology, below)
- C. Fellowship in Medical Toxicology
The Children's Hospital of Philadelphia
University of Pennsylvania School of Medicine
July 2002- June 2007
- D. Pharmacoepidemiology Fellow
Center for Clinical Epidemiology and Biostatistics
University of Pennsylvania School of Medicine
Philadelphia, Pennsylvania
July 2002- June 2007

MILITARY: None

ACADEMIC APPOINTMENTS:

Department of Emergency Medicine
Associate Professor
NJMS – Rutgers Biomedical and Health Sciences
July 2016-present

Department of Pediatrics
UMDNJ – Robert Wood Johnson School of Medicine
Assistant Professor
October 2007-August 2010

HOSPITAL APPOINTMENTS:

Medical Toxicology Consultant
University Hospital
Newark, NJ
July 2016- present

Pediatric Emergency Department, Department of Emergency Medicine
Attending Physician
University Hospital
Newark, NJ
July 2016-present

Pediatric Emergency Department, Department of Emergency Medicine
Morristown Medical Center, Atlantic Health System
Attending Physician, Director of Toxicology
September 2010- present

Pediatric Emergency Department
Robert Wood Johnson University Hospital
Attending Physician
October 2007- August 2010

OTHER EMPLOYMENT OR MAJOR VISITING APPOINTMENTS: None.

PRIVATE PRACTICE N/A

LICENSURE: NJ license, unrestricted 25MA08309900, expiration 06/30/2017
NY license, unrestricted 281272, expiration 6/30/2017

DRUG LICENSURE:

CDS: D09183600, issued 11/23/2016, expiration 10/31/2017
DEA: BC8171059, issued 8/27/2014, expiration 08/31/2017

CERTIFICATION:

Diplomate, American Board of Pediatrics, October 2002
Certificate Number 74958

Board Certification, Pediatric Emergency Medicine
American Board of Pediatrics
Certificate Number 1453
Certification Date 3/30/2009, Expiration 3/30/2019

Board Certification, Medical Toxicology
American Board of Pediatrics, November 2008
Certificate Number 32
Certification Date 11/13/2008, Expiration 11/13/2018

Board Certification, Addiction Medicine
American Board of Addiction Medicine, 10/17/2015
Certification Number: 2015065

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:

New Jersey Medical School Advisory Women's Group
Appointed Member, July 2019

American Board of Emergency Medicine
Medical Toxicology Subboard
Member and American Academy of Pediatrics Delegate
November 2017- present

Pharmacy and Therapeutics Committee, University Hospital, Newark
July 2016-present

American College of Medical Toxicology Board of Directors
Member, May 2016- present

American Academy of Clinical Toxicology Pediatric Section
Chairwoman, January 2013, 2 year term
Member, 2009 - current

ACMT Toxicology Investigator's Consortium (Toxic) Registry
Director of Research and Site Coordination, January 2017-present
Leadership Team, May 2016- present
Investigator, October 2013- present

American College of Medical Toxicology Education Committee
Member, September 2010- present
Premeeeting Symposium Chair, 2013 and 2014, 2017 (see below)
Chair, North American Congress of Clinical Toxicology ACMT Programs, 2015

American College of Medical Toxicology Research Committee
Member, March 2015- present
Abstract Reviewer, ACMT Annual Scientific Meeting, 2015-present

National Poison Data System Pediatric Fatality Review Team
American Association of Poison Control Centers
Member, 2010-present

Pharmacy and Therapeutics Committee, Morristown Medical Center
Atlantic Health System
Member, September 2014- June 2016

Informa Healthcare Innovative Research Award Committee
Co-Chair, North American Congress of Clinical Toxicology 2012
Las Vegas, NV

Informa Healthcare Innovative Research Award Committee
Co-Chair, North American Congress of Clinical Toxicology 2011
Washington, DC

Emergency Medical Services for Children Advisory Council
State of New Jersey, Department of Health
Member, January 2008 – January 2014

Pharmacy and Therapeutics Committee, Bristol-Myers Squibb Children's Hospital
Chair, June 2009 – August 2010
Member, October 2007 – August 2010

Pharmacy and Therapeutics Committee – Robert Wood Johnson University Hospital
Member, June 2009 – August 2010

Pediatric Resident Interview and Selection Committee - Robert Wood Johnson Medical School,
Member, July 2007 – June 2008

HONORS AND AWARDS:

Fellow of the American Academy of Clinical Toxicology, 2015

Fellow of the American College of Medical Toxicology, 2013

Fellow of the American Academy of Pediatrics, 2011

UMDNJ – Office of the Vice President for Research Career Development Travel Research Award,
2008

National Institutes of Health Loan Repayment Program Award Recipient, 2005

The Children's Hospital of Philadelphia Jean A. Cortner Divisional Teaching Award
for Excellence in and Commitment to Resident Education, 2005

The Children's Hospital of Philadelphia Jean A. Cortner Divisional Teaching Award
for Excellence in and Commitment to Resident Education, 2003

The Children's Hospital of Philadelphia Jean A. Cortner Divisional Teaching Award
for Excellence in and Commitment to Resident Education, 2002

Alpha Omega Alpha Honor Society, UMDNJ – New Jersey Medical School, 1997

BOARDS OF DIRECTORS/TRUSTEES POSITIONS:

American College of Medical Toxicology, Board of Directors
Elected May 2016 for 3-year term

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:

SERVICE ON MAJOR COMMITTEES:

- A. International:
 - a. Extracorporeal Treatments in Poisoning (EXTRIP) Workgroup, 2012- present: International workgroup to evaluate the evidence behind the use of dialysis and other modalities to remove toxins in a variety of poisoning scenarios. See bibliography.
 - b. American Academy of Clinical Toxicology Workgroup for Evidence-Based Recommendations on the Use of Intravenous Lipid Emulsion Therapy in Poisoning, International, 2013-present
- B. National
 - a. National Poison Data System Pediatric Fatality Review Team, American Association of Poison Control Centers, 2010-present
 - b. Emergency Medical Services for Children Advisory Council, State of New Jersey, Department of Health, Member January 2008-January 2014
- C. State
 - a. New Jersey Department of Health and Centers for Disease Control Biomonitoring Commission, Fall 2016-present
 - b. Emergency Medical Services Council, July 2016-present
- D. Medical School/University
 - a. Pediatric Resident Interview and Selection Committee – Robert Wood Johnson Medical School, July 2007-June 2008
 - b. NJMS Admissions Interviewer, 2016-present
 - c. Rutgers Research Council, Rutgers University – Appointed May 2017
- E. Hospital
 - a. Pediatric Pharmacy and Therapeutics Committee, Bristol-Myers Squibb Children’s Hospital
 - i. Chairwoman, June 2009-August 2010
 - ii. Member, October 2007-August 2010
 - b. Pharmacy and Therapeutics Committee – Robert Wood Johnson University Hospital
 - i. Member, June 2009-August 2010
 - c. Pharmacy and Therapeutics Committee, Morristown Medical Center, Atlantic Health System, September 2014-June 2016
 - d. Pharmacy and Therapeutics Committee, University Hospital, Newark, NJ, September 2016-present
- F. Community
 - a. Camp Dudley Association Board of Trustees, elected 2018-2023
- G. Editorial
 - a. American College of Medical Toxicology Newsletter, 2007-2008
- H. *AdHoc* Reviewer
 - a. *Pediatric Emergency Care*, 2003 to present
 - b. *Pediatrics*, 2004 to present
 - c. *Journal of Emergency Nursing*, 2005
 - d. *Resident and Staff Physician*, 2006
 - e. *Journal of Medical Toxicology*, 2008 to present
 - f. *Pharmacoepidemiology and Drug Safety*, 2009
 - g. *Clinical Toxicology*, 2011 to present
 - h. *UptoDate Online*, 2011 to present
 - i. *Journal of Emergency Medicine*, 2011 to present
 - j. *Annals of Emergency Medicine*, 2017 to present

TEACHING RESPONSIBILITIES:

- A. Course Directorships

Up For Debate: Addressing Controversies in Poisoning
 Organizer, Moderator and Presenter
 American College of Medical Toxicology Pre-Meeting Symposium
 North American Congress of Clinical Toxicology

Vancouver, BC
October 2017

The Antipsychotic Medication Epidemic in Children – Integrating Toxicity with Utilization
American Academy of Clinical Toxicology Webinar Series
Speaker: Erica Liebelt, MD, FACMT
Moderator
October 4, 2016

Lead Contamination in a Hospital Water Supply: Risk Assessment, Communication, and Outcomes
Toxicology News Hour: Lead in Drinking Water
Invited Speaker/Faculty, Organizer
North American Congress of Clinical Toxicology, Boston, MA
September 2016

North American Congress of Clinical Toxicology, San Francisco CA, September 2015
Working Group Chair for ACMT Content

Toxicoprevention: Good intentions, Important Advances, and Unintended Consequences
American College of Medical Toxicology Annual Scientific Meeting
Clearwater Beach, FL
Organizing Committee
March 2015

Toxicology News Hour: Focus on Zohydro and Marijuana Legalization
Organizer and Moderator
North American Congress of Clinical Toxicology, New Orleans, LA
October 2014

CSI Atlanta: Medical Toxicology, Law Enforcement and Crime Scene Investigation
American College of Medical Toxicology Annual Premeeting Symposium
Organizer and Moderator
North American Congress of Clinical Toxicology, Atlanta, GA
October 2013

Toxicology News Hour: Health Effects of Hydraulic Fracturing
Organizer
North American Congress of Clinical Toxicology, Atlanta, GA
October 2013

Toxicology Track, Mediterranean Emergency Medicine Conference
United States Track Chair, Moderator
American Academy of Emergency Medicine
Marseille, France, September 2013

Vanity and Vice: Toxicology in the Sin City
American College of Medical Toxicology Annual Premeeting Symposium
Organizer and Moderator
North American Congress of Clinical Toxicology, Las Vegas, NV
October 2012

Pediatric Lead Poisoning: Evaluating the Revised CDC Guidelines
Moderator and Coordinator, The Year in Toxicology
North American Congress of Clinical Toxicology, Las Vegas, NV
October 2012

Novel Recreational Drugs

Moderator and Coordinator, The Year in Toxicology
North American Congress of Clinical Toxicology, Washington, DC
September 2011

Pediatric Symposium: Teens, 'Tudes and Tests: Teen Use and Drug Testing

Moderator
North American Congress of Clinical Toxicology, Washington, DC
September 2011

Lifelong Learning and Self-Assessment, American College of Medical Toxicology, 2011

Moderator, Coordinator, Presenter
North American Congress of Clinical Toxicology, Washington, DC
September 2011
Program also presented at:
American College of Medical Toxicology Webinar, July 2011

Toxicology Track, Mediterranean Emergency Medicine Conference

United States Track Chair, Moderator
American Academy of Emergency Medicine
Kos, Greece, September 2011

Oral Abstract Session, Mediterranean Emergency Medicine Conference

Moderator
American Academy of Emergency Medicine
Kos, Greece, September 2011

Long-term Health Consequences of the Gulf Oil Spill

Moderator and Coordinator, The Year in Toxicology
North American Congress of Clinical Toxicology, Denver, CO
October 2010

Acetaminophen and the FDA: Dosing, Packaging, Priorities

Moderator, coordinator for expert panel
North American Congress of Clinical Toxicology, San Antonio, TX
September 2009

B. Lectures

Law Enforcement Training for the Opioid Epidemic

Partnership for a Drug-Free New Jersey
Tropicana Resort, Atlantic City, NJ
May 30th, 2019

Acetaminophen: Common Yet Complicated

Virtua Voorhees Pediatric Hospitalist Conference
May 15th, 2019

Pediatric Consequences of the Opioid Epidemic

St. Peter's University Hospital Pediatric Grand Rounds
April 25th, 2019

One Pill Can Kill: An Update

Monmouth Ocean County (MONOC) Annual EMS Fellowship Dinner
The Robert Treat Hotel, Newark, NJ
May 22, 2018

Adolescent Opioids and Addiction Expert Panel

New Jersey AAP Annual Conference
The Palace at Somerset
May 22, 2018

Morristown Medical Center Department of Emergency Medicine Grand Rounds

May 1, 2018
May 14th, 2019
Morristown, NJ

Opioid Roundtable Panel Discussion

National Volunteer Fire Council Spring Meeting
Arlington, VA
April 20, 2018

Pediatric Lead Poisoning: Evolving Standards and What to Do About Them

St. Peter's University Hospital Pediatric Grand Rounds
New Brunswick, NJ
May 24, 2018

Collateral Damage: Pediatric Consequences of the Opioid Epidemic

Englewood Hospital Pediatric Grand Rounds
January 9, 2018

Occupational Exposures and the Poison Center

Clinical Research and Occupational Medicine Grand Rounds
Environmental and Occupational Health Science Institute (EOHSI), Rutgers University
November 7, 2017

Designer Drugs: The evolving face of legal highs, synthetic cannabinoids and other novel psychoactives

Trauma 2017: Capital Health Regional Medical Center
October 20, 2017

"Smack Down" New Jersey's Opioid Crisis: Pediatric Consequences of the Opioid Epidemic

American Academy of Pediatrics, NJ Chapter
School Health Conference
October 18, 2017

AACT Pediatrics and ACMT Addiction Symposium: The Youngest Victims

North American Congress of Clinical Toxicology
Vancouver, BC
October 2017

Intravenous lipid emulsion therapy in pediatrics: Smaller patients, bigger problems?

ACMT Pre-meeting Symposium: Up For Debate, Controversies in Clinical Toxicology
North American Congress of Clinical Toxicology
Vancouver, BC
October 11, 2017

Preventing Elevated Blood Lead Levels in Children

Take the Lead on Lead Conference
New Jersey Department of Health and Lead and Healthy Homes Coalition
Edison, NJ
September 14, 2017

*Protecting First Responders on the Front Lines of the Fentanyl Epidemic:
The New Jersey Fusion Center Experience*
United States Department of Homeland Security Office of Health Affairs
September 6, 2017

Chemical Agents of Opportunity for Terrorism: TICs and TIMs
Faculty, American College of Medical Toxicology Course
National Library of Medicine
August 30, 2017

The New Jersey Poison Information and Education System (NJPIES): Improving Population Health
New Jersey Department of Health 2017 Population Health Summit
Rider University, June 7th 2017

Pediatric Environmental Lead Poisoning: Evolving Standards and What to Do About Them
NJ American Academy of Pediatrics (AAP) Annual Meeting
The Palace in Somerset
May 24th, 2017

Knock Out Opioid Abuse Town Hall
Invited Panel Discussant
Partnership for a Drug-Free New Jersey
Morris County Public Safety Training Facility
May 17, 2017

Designer Drugs: The Evolving Face of Novel Psychoactive Substances
New Jersey American College of Emergency Physicians (ACEP) Scientific Assembly
Crowne Plaza Princeton Conference Center
May 5th, 2017

Developing Multidisciplinary Partnerships to Address the Opioid Epidemic and Emerging Drugs of Abuse
Invited lecturer
National Association of County and City Health Officials Preparedness Summit
Atlanta, GA
April 27, 2017

Combatting Opioids and the Addiction Epidemic
Invited Panel Discussant
Drew University, Caspersen School of Graduate Studies
April 3, 2017

The Youngest Victims: Pediatric Consequences of the Opioid Epidemic
American College of Medical Toxicology Annual Spring Meeting
Satellite Session on the Opioid Epidemic
San Juan, Puerto Rico
March 30, 2017
Also given at Robert Wood Johnson Medical School
Department of Pediatrics Grand Rounds
April 13, 2017
Also given at Cooper University Medical Center
Department of Pediatrics Grand Rounds
May 17th, 2017

Enhanced Elimination in the Poisoned Patient
Department of Medicine Grand Rounds

New Jersey Medical School
Rutgers Biomedical and Health Sciences
January 17, 2017
Also given at Barnabas Health System Medicine Grand Rounds
February 7, 2017

Designer Drugs: The Evolving Face of Legal Highs, Synthetic Cannabinoids and Other Novel Psychoactives

13th Annual Pediatric Kline Symposium
Capital Health System
October 28, 2016

Pediatric Environmental Lead Poisoning: Evolving Standards and What to Do About Them

Department of Pediatrics Grand Rounds Series
Hackensack University Medical Center
October 16, 2016
Also given at Atlantic Health System Department of Pediatrics Grand Rounds
Morristown Medical Center and Overlook Medical Center
August 11-12, 2016

Lead Contamination in a Hospital Water Supply: Risk Assessment, Communication, and Outcomes

Toxicology News Hour: Lead in Drinking Water
Invited Speaker/Faculty
North American Congress of Clinical Toxicology, Boston, MA
September 2016

What Every Fellow Needs to Know about the ToxIC Registry, and What it May Mean for Your Career

American College of Medical Toxicology Webinar
August 26, 2016

Who's Molly and What's N-BOME? Emerging Psychoactives and Designer Drugs

All New Jersey Symposium for Emergency Medicine Residencies
(ANSER), 3rd annual, www.theANSER.net
Rutgers Busch Campus Center
March 24, 2016

Lead Poisoning: Overview with Focus on Pediatric Lead Exposure

Environmental and Occupational Health Science Institute
Rutgers School of Biomedical Sciences
CROM Grand Rounds Series
April 2015

Pediatric Poisoning: Persistent Perils and Emerging Hazards

Pediatric Gurus Conference through Goryeb Children's
Hospital
Skytop Lodge, Skytop, Pennsylvania, June 2014
Also presented at: Atlantic Health System Pediatric Grand Rounds
Chilton Medical Center, December 2013

Pediatric Poisoning Fatalities: Successes, Failures, and Targets for Improvement

Invited Lecturer, Mediterranean Emergency Medicine Congress
Delegate, American Academy of Emergency Medicine
Marseille, France, September 2013

The Epidemiology of Pediatric Poisoning Fatalities Reported to US Poison Control Centers: History and Response from Pediatric Toxicologists

Invited Lecturer, Pediatric/Forensic SIG Symposium
North American Congress of Clinical Toxicology, Las Vegas, NV
October 2012

Clinical Effects of Designer Drugs

Annual Meeting of New Jersey Society of Forensic Scientists
Atlantic City, NJ
May 2012

Pediatric Emergency Medicine in Historic Philadelphia

Invited faculty
The Children's Hospital of Philadelphia
University of Pennsylvania School of Medicine
November 2007-present (annual)

Ionizing Radiation: Overview and Update on Antidotal Therapy

Invited Lecturer, Mediterranean Emergency Medicine Conference
American Academy of Emergency Medicine, Kos, Greece
September 2011

Cyanokit vs. Hydroxocobalamin: Review of The Evidence

Invited Lecturer, Mediterranean Emergency Medicine Conference
American Academy of Emergency Medicine, Kos, Greece
September 2011

Lifelong Learning and Self-Assessment Exercise

Invited Lecturer, American College of Medical Toxicology
North American Congress of Clinical Toxicology
Washington, DC
September 2011

Acetaminophen and the FDA: Dosing, Packaging, Priorities

Atlantic Health System Pediatric Grand Rounds Lecture Series
June 2011

Antidotes: New, Novel, and Newsworthy

Morristown Medical Center Emergency Medicine Residency
Conference Series
May 2011

The Poisoned Child

UMDNJ – Cooper University Medical Center Emergency Medicine Residency
Toxicology Conference Series, Camden, NJ
Emergency Medicine Conference
Morristown Memorial Hospital, Morristown, NJ
UMDNJ – Robert Wood Johnson Emergency Medicine Residency
Core Lecture Series, New Brunswick, NJ
October 2010

Acetaminophen Overdose: Current Controversies and the FDA

Invited Lecturer, Robert Wood Johnson School of Medicine
Department of Pediatrics Grand Rounds
October 2009

American College of Medical Toxicology Lifelong Learning and Self-Assessment
Invited Lecturer, North American Congress of Clinical Toxicology
San Antonio, TX
September 2009

Nutmeg, Amphetamines and the Internet
Robert Wood Johnson Pediatric Resident Case Conference
May 2009

Procalcitonin in Young Febrile Infants for the Detection of Serious Bacterial Infection
RWJ Pediatric Resident Evidence-Based Medicine Conference
December 2009

Clinical Toxicology
General Toxicology II Graduate Course
Environmental and Occupational Health Science Institute (EOHSI)
Robert Wood Johnson Medical School and Rutgers University
April 2008

The Management of Calcium Channel Blocker Toxicity
Invited Lecturer
Robert Wood Johnson University Hospital
Department of Emergency Medicine Grand Rounds
March 2008

Toxicology Module-Disease Processes Prevention and Therapeutics Course
Course faculty
New Jersey Medical School – UMDNJ
January 2008-2011

Special Considerations in Pediatric Poisoning
Albert Einstein Medical Center, Philadelphia
Pediatric/Emergency Medicine Combined Conference Series
October 2006

Cardiovascular Toxicology
The Children's Hospital of Philadelphia
Fellow Education Series
September 2006

The Poisoned Child
Crozer Chester Medical Center, Philadelphia
Resident Educational Program
May 2006

Altered Mental Status
Pediatric Emergency Medicine in Historic Philadelphia
The Children's Hospital of Philadelphia
November 2005

Novel Antidotes in Pediatrics
First Annual Toxicology Symposium
The Poison Control Center in Philadelphia
The Morris Arboretum, Philadelphia
June 2005

New and Novel Antidotal Therapies
Pediatric Emergency Medicine in Historic Philadelphia
The Children's Hospital of Philadelphia
November 2004

The Primary and Secondary Survey
The Children's Hospital of Philadelphia
Resident Educational Conference
September 2001

C. Media Appearances (selected sample)

"What's Next for Marijuana in New Jersey?"
NJ Spotlight Roundtable, June 21st, 2019
<https://www.njspotlight.com/stories/19/07/01/whats-next-for-marijuana-in-new-jersey-an-nj-spotlight-roundtable/>

"Narcan scarce at pharmacies in N.J. cities hurting from opioid crisis, researchers find"
https://whyy.org/articles/narcan-scarce-at-pharmacies-in-n-j-cities-hurting-from-oid-crisis-researchers-find/NJ_101.5

"100 New Jersey preteens have attempted suicide by poisoning since 2018"
The Philadelphia Inquirer
May 31, 2019

"Can you really overdose from fentanyl in the air? Here's what medical experts say"
Belleville News-Democrat, Kaley Johnson
Belleville, IL
July 13, 2018

"How did a chlorine gas cloud form over a public pool?"
Livescience.com, Yasemin Saplakoglu
June 16, 2018

"How to survive snake season, even if you get bitten"
Webmd.com, Matt McMillen
May 25, 2018

"Yes, People really are eating Tide Pods. No, it's not safe"
The New York Times
January 20, 2018

"Perth Amboy teen dies from carbon monoxide poisoning"
MyCentralJersey.com
January 4, 2018

"Poison Control: Deck the halls with boughs of safety"
MyCentralJersey.com, December 22, 2017
Atlantic Highlands Herald, December 19, 2017

"NJ Poison Control Expert: Lead poisoning a risk at indoor firing ranges"
MyCentralJersey.com
December 1, 2017

"Synthetic marijuana's prevalence grows in North Jersey, experts say"
www.northjersey.com
November 17, 2017

“Indoor shooting ranges targeted as sources of lead poisoning in adults”

www.njspotlight.com

October 24, 2017

“Safe Kids New Jersey offers “Home Safe Home” kits”

NJTV news, August 21, 2017

“Are people really falling ill from touching fentanyl? In most cases, scientists say no”

www.statnews.com

August 9, 2017

“NJ Mushroom poisonings spike, some potentially life-threatening”

Philly.com

August 8, 2017

“NJ Poison Center reports a mid-summer spike in mushroom poisoning”

The Hudson Reporter

August 9, 2017

“Fentanyl Danger has South Jersey First Responders on Edge”

The Courier-Post

June 22, 2017

“NYC Borough Presidents Want Stronger Response to Lead Levels in Schools”

Wall Street Journal, March 2, 2017

Englewood Hospital Lead Contamination

Fox 5 News, January 18, 2017

“Children Sickened by Industrial Cleaning Products from Parents’ Workplace”

Atlantic City Herald

November 14, 2016

Radio broadcast, NJ 101.5 November 15, 2016

“Halloween Safety”, WMBC Studios, West Caldwell NJ

October 15, 2016

“Family Poisoned by Pesticide”, Fox and Friends Morning Show

Fox News Studio, New York, NY

April 2015

“Neknomination”, Fox and Friends Morning Show

Fox News Studio, New York, NY

February 2014

“Energy Drink-related ER visits double in 4 years”

CBS News Radio NY, National News Radio

February 2013

Press Conference, Statewide Ban on Synthetic Marijuana

New Jersey State Attorney General Jeffrey Chiesa

Department of Consumer Affairs

Trenton, NJ

February 2012

CLINICAL RESPONSIBILITIES:

7/1/2016- present	Executive and Medical Director New Jersey Poison Information and Education System Department of Emergency Medicine New Jersey Medical School Rutgers Biomedical and Health Sciences
7/1/2016 – present	Attending Physician, Pediatric Emergency Medicine University Hospital, Newark, New Jersey
10/1/2013-6/30/2016	Director of Medical Toxicology Morristown Medical Center – Atlantic Health System Department of Emergency Medicine
9/1/2010-6/30/2016	Attending Physician, Pediatric Emergency Medicine Department of Emergency Medicine Morristown Medical Center Morristown, New Jersey
10/1/07-6/30/2016	Medical Toxicologist, New Jersey Poison Information and Education System New Jersey Medical School Department of Preventive Medicine UMDNJ – Newark, New Jersey Now Department of Emergency Medicine, RBHS
10/1/07-8/30/10	Attending Physician Division of Pediatric Emergency Medicine UMDNJ – Robert Wood Johnson Medical School New Brunswick, New Jersey

GRANT SUPPORT:

Contract # AIDS17PIN002: New Jersey AIDS/STD Hotline, NJ Department of Health
Annual recurring program grant award
New Jersey Hotline for AIDS/STD prevention, testing and treatment
Role: Program Director, Primary Investigator
Award: \$439,701

Contract # PHL17PIE002: New Jersey Poison Information and Education System, NJ Department of Health
Annual recurring program grant award
NJ Poison Information Hotline
Role: Program Director, Primary Investigator
Award: \$589,000

Contract # H4BHS26038: Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services
9/1/2014-8/31/2019, annual recurring program grant award
Poison Control Stabilization and Enhancement Program
Role: Program Director, Primary Investigator
Award: \$ 475,185

Contract #E1122RR-3, Denver Health and Hospital Authority
Researched Abuse, Diversion and Addiction-Related Surveillance (RADARS®)
Role: Program Director, Primary Investigator
Award: Variable

PUBLICATIONS:

A. Referenced Original Articles in Journals

1. Shieh-Czaja A, **Calello DP**, Osterhoudt KC; Pick your poison: Sick sisters; *Pediatr Emerg Care*, 21: 400-402, 2005.
2. Beno SB, **Calello D**, Baluffi A, Henretig FM; Pediatric body packing: drug smuggling reaches a new low; *Pediatr Emerg Care*, 21: 744-746, 2005.
3. Cho CS, **Calello DP**, Osterhoudt KC; Exploratory buprenorphine ingestion in an infant; *Ann Emerg Med*, 48:109, 2006.
4. **Calello DP**, Kelly A, Osterhoudt KC; Case files of the Medical Toxicology Fellowship Training Program at the Children's Hospital of Philadelphia: a pediatric exploratory sulfonyleurea ingestion; *J Med Toxicol*, 2(1): 19-24, 2006.
5. Osterhoudt KC, **Calello DP**; Obtundation in a toddler: Naloxone is fundamental [letter]; *Am J Emerg Med*, 25(4): 481, 2007.
6. Wood J, Carney J, Szczepanski K, **Calello DP**, Hurt H; Transplacental Isopropanol Exposure: Case Report and Review of Metabolic Principles; *J Perinatology*, 27:183-185, 2007.
7. Alpern ER, **Calello DP**, Windreich R, Osterhoudt K, Shaw KN; Utilization and unexpected hospitalization rates of a pediatric emergency department 23-hour observation unit; *Pediatr Emerg Care*, 24: 589-94, 2008.

8. Sirianni AJ, Osterhoudt KC, **Calello DP**, Muller AA, Waterhouse MR, Goodkin MB, Weinberg GL, Henretig FM; Use of lipid emulsion in the resuscitation of a patient with prolonged cardiovascular collapse after overdose of bupropion and lamotrigine; *Ann Emerg Med*, 51:412-5, 2008.
9. **Calello DP**, Alpern ER, McDaniel-Yakscoe N, Garrett BL, Shaw KN, Osterhoudt KC; Observation unit experience for pediatric poison exposures; *J Med Toxicol*, 5: 15-19, 2009.
10. Berrizbeitia L, **Calello DP**, O'Reilly CR, Marcus SM; Liquid nitrogen ingestion followed by gastric perforation; *Pediatr Emerg Care*, 26: 48-50, 2010.
11. Saybolt MD, Alter SM, DosSantos FD, **Calello DP**, Rynn KO, Nelson DA, Merlin MA; Naloxone in Cardiac Arrest with Suspected Opioid Overdose; *Resuscitation*, 81: 42-46, 2010.
12. Ghannoum M, Nolin TD, Lavergne V, Hoffman RS; Collaborators Bunchman TE, Burdmann EA, **Calello DP** et al; Blood purification in toxicology: nephrology's ugly duckling; *Adv Chronic Kidney Dis*, 18: 160-6, 2011.
13. **Calello DP**, Marcus SM, Lowry J; 2010 pediatric fatality review of the National Poison Center database; Results and recommendations; *Clin Toxicol*, 50:25-6, 2012.
14. Shah AM, **Calello DP**, Quintero-Solivan J; The Not-So-Nice Spice: A Teenage Girl with Palpitations and Dry Mouth; *Pediatr Emerg Care*, 27: 1205-7, 2011.
15. Lavergne V, Nolin TD, Hoffman RS, et al. (**Calello DP** 20th author); The EXTRIP (EXtracorporeal Treatments in Poisoning) workgroup: Guideline methodology; *Clin Toxicol*, 50(5): 402-13, 2012.
16. Ghannoum M, Nolin TD, Goldfarb DS, et al (**Calello D** 11th author); Extracorporeal treatment for Thallium Poisoning: Recommendations from the EXTRIP workgroup; *Clin J Am Soc Nephrol*, 7: 1682-90, 2012.
17. Fine JS, **Calello DP**, Marcus SM, Lowry JA; 2011 Pediatric fatality review of the National Poison Center Database; *Clin Toxicol*, 50: 872-4, 2012.
18. Bucher JT, **Calello DP**; A Fish Tale: Flushing and Pruritis after Tuna Ingestion; *J Emerg Med*, 45: 909-911, 2013. (epub ahead of print)
19. **Calello DP**, Henretig FM; Pediatric Toxicology: Specialized Approach to the Poisoned Child; *Emerg Med Clin N Am*, 32: 29-52, 2014.
20. **Calello DP**, Fine JF, Marcus SM, Lowry JA; 2012 Pediatric fatality review of the National Poison Database System; *Clin Toxicol*, 52: 93-5, 2014.
21. Eskin B, Shih RD, Fiessler FW, Walsh BW, Allegra JR, Silverman ME, Cochrane DG, Stuhlmiller DF, Hung OL, Troncoso A, **Calello DP**; Prednisone for emergency department low back pain: a randomized controlled trial; *J Emerg Med*, 47: 65-70, 2014.
22. Lavergne V, Ouellet G, Bouchard J, et al. (**Calello DP** 9th author); Guidelines for reporting case studies on extracorporeal treatments in poisonings: Methodology; *Semin Dial*, 27(4): 407-14, 2014. (epub ahead of print)

23. Mactier R, Laliberte M, Mardini J, et al; EXTRIP Workgroup (**Calello**); Extracorporeal treatment for barbiturate poisoning: recommendations from the EXTRIP Workgroup; *Am J Kidney Dis*, 64(3): 347-58, 2014. (epub ahead of print)
24. Yates C, Galvao T, Sowinski KM, et al; EXTRIP Workgroup (**Calello**); Extracorporeal treatment for tricyclic antidepressant poisoning: Recommendations from the EXTRIP Workgroup; *Semin Dial*, 27(4): 381-9, 2014. (epub ahead of print)
25. Gosselin S, Juurlink DN, Kielstein JT, Ghannoum M, Lavergne V, Nolin TD, Hoffman RS; EXTRIP Workgroup (**Calello**); Extracorporeal treatment for acetaminophen poisoning: Recommendations from the EXTRIP Workgroup; *Clin Toxicol*, 52: 856-67, 2014.
26. Lowry JA, Fine JS, **Calello DP**, Marcus SM; Pediatric fatality review of the 2013 National Poison Database System (NPDS): focus on intent; *Clin Toxicol*, 53: 79-81, 2015.
27. Decker BS, Goldfarb DS, Dargan PI, et al; EXTRIP Workgroup (**Calello**); Extracorporeal treatment for lithium poisoning: Systematic review and recommendations from the EXTRIP workgroup; *Clin J Am Soc Nephrol*, 10: 875-87, 2015.
28. Ghannoum M, Wiegand TJ, Liu KD, **Calello DP**, Godin M, Lavergne V, Gosselin S, Nolin TD, Hoffman RS; EXTRIP workgroup; Extracorporeal treatment for theophylline poisoning: Systematic review and recommendations from the Extracorporeal Treatments in Poisoning Workgroup; *Clin Toxicol*, 53: 215-29, 2015.
29. **Calello DP**, Liu KD, Wiegand TJ, Roberts DM, Lavergne V, Gosselin S, Hoffman RS, Nolin TD, Ghannoum M; EXTRIP Workgroup; Extracorporeal treatment for metformin poisoning: Systematic review and recommendations from the Extracorporeal Treatments in Poisoning Workgroup; *Crit Care Med*, 43(8): 1716-30, 2015. [Epub ahead of print]
30. Juurlink DN, Gosselin S, Kielstein JT, et al; EXTRIP Workgroup (**Calello**); Extracorporeal treatment for salicylate poisoning: Systematic review and recommendations from the EXTRIP workgroup; *Ann Emerg Med*, 66: 165-81, 2015.
31. Gosselin S, Morris M, Miller-Nesbitt A, et al (**Calello 15th author**); Methodology for AACT evidence-based recommendations on the use of intravenous lipid emulsion therapy in poisoning; *Clin Toxicol*, 53: 557-64, 2015.
32. **Calello DP**, Allegra SJ, Cochrane DG, Eskin B, Allegra JR; Emergency Department visits for gastroenteritis before and after rotavirus vaccine implementation in 2006; *Pediatr Emerg Care*, 10: 699-700, 2015.
33. Ghannoum M, **Calello DP**, Lavergne V, Gosselin S, Liu KD, Roberts DM; The authors reply; *Crit Care Med*, 43: e534-5, 2015.
34. Hayes BD, Gosselin S, **Calello DP**, Nacca N, Rollins CJ, Abourbih D, Morris M, Nesbitt-Miller A, Morais JA, Lavergne V; Lipid Emulsion Workgroup; Systematic review of clinical adverse events reported after acute intravenous lipid emulsion administration; *Clin Toxicol*, 54(50): 365-404, 2016.
35. Wong K, Troncoso AB, **Calello DP**, Salo D, Fiesseler F. Radial head subluxation: Factors associated with its recurrence and radiographic evaluation in a tertiary pediatric emergency department. *J Emerg Med* 2016, epub ahead of print.

36. Gosselin S, Hoegberg LCG, Hoffman RS, Graudins A, Stork CM, Thomas SHL, Stellpflug SJ, Hayes BD, Levine M, Morris M, Nesbitt-Miller A, Turgeon AF, Bailey B, **Calello DP**, Chuang R, Bania TC, Megarbane B, Bhalla A, Lavergne V. Evidence-based recommendations on the use of intravenous lipid emulsion therapy in poisoning. *Clin Toxicol (Phila)*. 2016 Sep 8;1-25.
37. Monte AA, **Calello DP**, Gerona RR, Hamad E, Campleman SL, Brent J, Wax P, Carlson RG; ACMT Toxicology Investigators Consortium (Toxic). Characteristics and treatment of patients with clinical illness due to synthetic cannabinoid inhalation reported by medical toxicologists: a Toxic database study. *J Med Toxicol* 2017; 13:146-152.
38. O'Keefe PA, Jones CS, Kowalski MO, **Calello DP**. Get the lead out: Responding to unplanned change. *Nurse Manage* 2017 48:24-30.
39. Farrugia LA, Rhyee SH, **Calello DP**, Campleman SL, Riederer AM, Malashock HR, Pizon A, Wiegand T, Wax PM, Brent J, Toxicology Investigators Consortium Study Group. The Toxicology Investigators Consortium Case Registry – the 2016 Experience. *J Med Toxicol* 2017; 13:203-226.
40. Lee VR, Connolly M, **Calello DP**. Pediatric Poisoning by Ingestion: Developmental Overview and Synopsis of National Trends. *Pediatr Ann* 2017; 46:e443-e448.
41. Lowry JA, Burns M, **Calello DP**. Pediatric Pharmaceutical Ingestions. *Pediatr Ann* 2017; 46:e459-e465.
42. Garcia E, Zaid AH, **Calello DP**, McHugh L, Arzumanov G, Asrar N, Sapin A, Fless KG. Shot by a gun....missed by a provider. *J Emerg Med* 2018; 54:e61-e64.
43. Gilley M, Brent J, **Calello DP**, Wax P, Finkelstein Y; Toxicology Investigators Consortium. Synthetic cannabinoid exposure in adolescents presenting for emergency care. *Pediatr Emerg Care* 2018 (epub ahead of print)
44. Farrugia LA, Rhyee SH, Campleman SL, Judge B, Kao L, Pizon A, Porter L, Riederer AM, Wiegand T, **Calello DP**, Wax PM, Brent J, Toxic Study Group. The Toxicology Investigators Consortium Case Registry – the 2017 Annual Report. *J Med Toxicol* 2018; 14:333.
45. Lee VR, Vera A, Alexander A, Ruck B, Nelson LS, Wax P, Campleman S, Brent J, **Calello DP**. Loperamide misuse to avoid withdrawal and to achieve a euphoric effect: high doses and high risk. *Clin Toxicol* 2018; 26:1-6.
46. Lozo KW, Nelson LS, Ramdin C, **Calello DP**. Naloxone deserts in NJ Cities: Sociodemographic factors which may impact retail pharmacy naloxone availability. *J Med Toxicol* 2019; 15:108-111.
47. Yu C, Eustaquio N, **Calello DP**, Ruck BE, Nelson LS, Santos C. Bismuth subsalicylate coagulopathy in a patient with chronic liver disease. *J Med Toxicol* 2019 [epub ahead of print]
48. Turner FN, Shih RD, Fishman I, Calello DP, Solano JJ. Total spinal anesthesia following an interscalene block treated with intravenous lipid emulsion. *Cureus* 2019; 11:e4491.

B. Books, Monographs and Chapters

1. **Calello DP**, Osterhoudt KC; A 3-year-old girl with a snakebite; In: Emergency Medicine Pearls; Baren, J., Alpern, E.R. (Eds.); 154-158; Hanley & Belfus, Philadelphia, PA; 2003.
2. **Calello DP**, Henretig FM; A 4-year-old boy with somnolence; In: Toxicology Pearls (1st edition); Osterhoudt K, Perrone J, DeRoos F, Henretig F, eds; 214-217; Hanley & Belfus, Philadelphia, PA; 2003.
3. **Calello DP**, Henretig FM; 15-year-old boy with altered mental status and ventricular bigeminy; In: Toxicology Pearls (1st edition); Osterhoudt K, Perrone J, DeRoos F, Henretig F, eds; 229-331; Hanley & Belfus, Philadelphia, PA; 2003.
4. **Calello DP**, Henretig FM; Caustics: acids and alkali; In: Pediatric Toxicology; Diagnosis and Management of the Poisoned Child; Baum C et al (eds.); 333-340; McGraw-Hill, New York, NY; 2004.
5. Collier R, **Calello DP**, Henretig F; In: The Philadelphia Guide: Inpatient Pediatrics; G, Shah SS, Catalozzi MC, Zaoutis LB (eds); 398-417; Blackwell Publishing, Malden, MA; 2005.
6. **Calello DP**; Selenium; Goldfrank's Toxicologic Emergencies, 8th ed; Goldfrank LG, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (Eds.); 1352-1358; McGraw-Hill, New York, New York; 2006.
7. **Calello DP**; Acute Poisoning; In: Current Pediatric Therapy, 18th ed; Burg F, Ingelberger J, Polin R, Gershon A (Eds); 197-199; Elsevier, Philadelphia, 2006.
8. **Calello DP**; Hazardous Household Chemicals; In: Pediatric Hospitalist Medicine; Zaoutis LB & Chiang V (Eds.); 1121-1127; Mosby-Elsevier, Philadelphia; 2007.
9. **Calello DP**, Osterhoudt KC, Bond GR; In: Textbook of Pediatric Emergency Procedures, 2nd ed; King C, Henretig FM, eds; 1185-1197; Lippincott Williams and Wilkins, Philadelphia, PA; 2007.
10. **Calello DP**; Octreotide; In: ToxED [database online]; Elsevier/Gold Standard Inc., Tampa, FL; 2008.
11. **Calello DP**; Selenium; In: Goldfrank's Toxicologic Emergencies, 9th ed; Goldfrank LG, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (Eds.); 1316-1321; McGraw-Hill, New York, New York; 2009.
12. Wiley JF, **Calello DP**; Toxicology. In: Schwartz's Clinical Handbook of Pediatrics, 5th Ed; Zorc JJ, Alpern ER, Brown LW, et al, eds; Lippincott Williams and Wilkins, Philadelphia, PA; 2013.
13. **Calello DP**; Selenium; In: Goldfrank's Toxicologic Emergencies, 10th ed; Goldfrank LG, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (Eds.); McGraw-Hill, New York, New York; 2015.
14. **Calello DP**, Henretig FM; Lead; In: Goldfrank's Toxicologic Emergencies, 10th ed; Goldfrank LG, Flomenbaum NE, Lewin NA, Howland MA, Hoffman RS, Nelson LS (Eds.); McGraw-Hill, New York, New York; 2015.
15. **Calello DP**, Troncoso A; Overview of Rodenticide Poisoning; In: UpToDate; Burns MM, Wiley JF (Eds); UpToDate, Waltham, MA; 2014.

16. Abaya R, **Calello DP**; Toxicology; In: The Philadelphia Guide: Inpatient Pediatrics, 2nd ed; Shah SS, Catalozzi MC, Zaoutis LB, Frank G (eds); in press; Blackwell Publishing, Malden, MA; 2015.
17. O'Donnell K, Osterhoudt KC, Burns M, **Calello DP**, Henretig FM; Toxicologic Emergencies; In: Textbook of Pediatric Emergency Medicine, 7th ed; Shaw KN, Bachur RG, (Eds.); Lippincott Williams & Wilkins, Philadelphia, PA; 2015.
18. **Calello DP**; Therapeutics and Toxicology; In: Year Book of Pediatrics 2016; Cabana MD, Goldstein AM, De Gialluly PS, Schroeder AR, (Eds.); Elsevier, Philadelphia, PA; 2016.
19. Dye LR, Murphy C, **Calello DP**, Levine MD, Skolnik A, eds. Case Studies in Medical Toxicology. American College of Medical Toxicology, Springer International Publishing, 2018.
20. **Calello DP**. Nonbacterial food poisoning. In: Nelson Textbook of Pediatrics; Kleigman RM, St. Geme JW, Blum NJ, et al, eds; Elsevier, Philadelphia, PA; 2018.
21. Renny M, **Calello DP**. Toxicology; In: The Philadelphia Guide: Inpatient Pediatrics, 3rd ed: Shah S, Catalozzi M, Zaoutis LB, eds. McGraw-Hill, in press.

C. Online Media

1. Calello, DP. "Small Poisoned Humans". The Tox and Hound, EMCrit.org. May 21, 2018. <https://emcrit.org/toxhound/small-poisoned-humans/>
2. Calello DP. "Dialyze This". The Tox and Hound, EMCrit.org, August 21, 2018
3. Calello DP. "Reefer Madness". The Tox and Hound, EMCrit.org, December 20, 2018
4. Calello DP. "The Sound of Silence: Opioid-Associated Deafness", EMCrit.org, March 14, 2019
5. Calello DP. "In the Beginning: Risk Assessment in Acetaminophen Toxicity", EMCrit.org, June 6th, 2019
6. The Dantastic Mr. Tox and Howard Podcast, July 31, 2018
7. ACMT Tox in Ten Podcast, IV Lipid Emulsion Therapy, July 10, 2018
8. Consultant 360 Podcast, "Pediatric Poisonings: Substances, Symptoms and Causes", June 2019.

D. Patents Held: None

E. Other Articles (Reviews, Editorials, etc.) In Journals; Chapters; Books; other Professional Communications

1. **Calello DP**, Shah SS; The child with fever of unknown origin; *Pediatr Case Rev*, 2; 226-238, 2002.
2. **Calello DP**, Osterhoudt KC; Acute Psychosis Associated with Therapeutic Use of Dextroamphetamine [letter]; *Pediatrics*, 113: 1466, 2004.
3. **Calello DP**, Muller AA, Henretig FM, Osterhoudt KC; Benzocaine: Not Dangerous Enough? [letter]; *Pediatrics*, 115: 1452, 2005.
4. **Calello DP**, Osterhoudt KC, Henretig FM; New and novel antidotes in pediatrics; *Pediatr Emerg Care*, 22(7); 523-30, 2006.

5. **Calello DP**; Commentary: An unusual case of acute abdomen; Resid Staff Physician, 52; 36-37, 2006.
6. **Calello DP**; An unusual case of acute abdomen: reply [letter]; Resid Staff Physician, 52(4): 2006.
7. **Calello DP**; "Selenium-related deaths in polo horses: highlighting problems with performance enhancers and dietary supplementation"; American College of Medical Toxicology Newsletter, June 2009.
8. Osterhoudt KC, **Calello DP**; Pediatric Glipizide Ingestion, Onset of Hypoglycemia, and Octreotide [letter]; Journal of Pediatric Endocrinology and Metabolism, 22: 1185, 2009.
9. Ruck B, **Calello DP**, Marcus S; Pediatric ingestions of hand sanitizer[letter]; Pediatr Emerg Care, 26:688-9, 2010.
10. **Calello DP**, Gosselin S; Resuscitative Intravenous Lipid Emulsion Therapy in Pediatrics: Is there a role?; Clinical Pediatric Emergency Medicine, 13; 311-316, 2012.
11. **Calello D**, Nelson LS. Case Studies in Toxicology: Drink the Water, but Don't Eat the Paint. Emergency Medicine 2017; 49:125-130.
12. Ciesla MM, **Calello DP**, Nelson LS. When the poisoned risk poisoning others: fatal sodium azide overdose. Emergency Medicine 2018; 50:132-134.
13. Henretig FM, **Calello DP**, Burns MM, O'Donnell KA, Osterhoudt KC. Predictable, Preventable, and Deadly: Epidemic Carbon Monoxide Poisoning after Storms. Am J Public Health 2018; 108:1320-1321.
14. Santos C, Adam A, **Calello D**, Nelson L. Safety of a brief emergency department observation protocol for patients with presumed fentanyl overdose. Ann Emerg Med 2019; 73:99-100.

F. Abstracts

1. **Calello DP**, Alpern ER, McDaniel-Yakscoe N, Shaw K, Osterhoudt KC; Observation unit experience for pediatric poison exposures; Poster Presentation, Pediatric Academic Societies, Washington, DC, May 2005.
2. Wood JN, **Calello DP**, Carney J, Szczepanski K, Hurt H; Transplacental Isopropanol Intoxication: A Report; Poster Presentation, North American Congress of Clinical Toxicology, Orlando, FL, September 2005; Published in: Clin Toxicol, 43(6); 669, 2005.
3. **Calello DP**, Osterhoudt KC, Henretig FM, Perrone J; Octreotide for Pediatric Sulfonylurea Overdose: Review of 5 Cases; Poster Presentation, North American Congress of Clinical Toxicology, Orlando, FL, September 2005. Published in: Clin Toxicol, 43(6);671, 2005.
4. Garrett BL, **Calello DP**, Schall J, Kawchak D, Richard E, Zemel B, Ohene-Frempong K, Stallings V; Urinary Retinol Loss in Children with Sickle Cell Disease; Poster Presentation, 29th Annual Meeting of the National Sickle Cell Disease Program, Memphis TN, April 2006.

5. **Calello DP**, Henretig FM, Muller A, Shaw LM, Osterhoudt KC; One Pill is One Too Many: Profound Hypoglycemia in Adults Mistakenly Given a Single Sulfonylurea; Poster Presentation, North American Congress of Clinical Toxicology, San Francisco, CA, October 2006. Published in: Clin Toxicol, 44; 767, 2006.
6. Chan RK, **Calello DP**, Troncoso AB, Salo D, Hung O. "Features Of Non-cannabinoid "Designer Drug" Exposures: Report From The Toxic Registry". E-Poster Presentation, Society of Academic Emergency Medicine Annual Meeting, San Diego, 2015.
7. Osterhoudt KC, Aplenc R, **Calello D**, Henretig F; Medication Error-Overdose of Intravenous N-Acetylcysteine; Poster Presentation, North American Congress of Clinical Toxicology, San Francisco, CA, October 2006. Published in: Clin Toxicol, 44; 626, 2006.
8. **Calello DP**, Osterhoudt KC, Henretig FM; Fomepizole Alone in a Critically Ill 9-Month-Old with Ethylene Glycol Poisoning; Poster Presentation, North American Congress of Clinical Toxicology, New Orleans, LA, November 2007. Published in: Clin Toxicol, 45; 639, 2007.
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