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## Background

- Teeth whitening products usually include hydrogen peroxide or carbamide peroxide
- Dermal or oral exposures to peroxides may be bothersome

## Objectives

- Describe teeth whitening product exposures reported to the United States poison centers
  - Incidence
  - Demographics
  - Reason of exposure
  - Management site
  - Common symptoms
  - Cases with moderate or major effects

## Methods

- Retrospective review of American Association of Poison Control Centers' National Poison Data System whitening product exposures
- Inclusion:
  - Ages 00 to 89 years
  - 2001-2020
  - Single substance exposures only
- Exclusion: teeth whitening toothpaste

## Conclusion

- Despite most teeth whitening product exposures were deemed nontoxic, a small number of cases resulted in prolonged clinical effects.
- Proper administration and storage may help reduce exposure incidence.

## Results

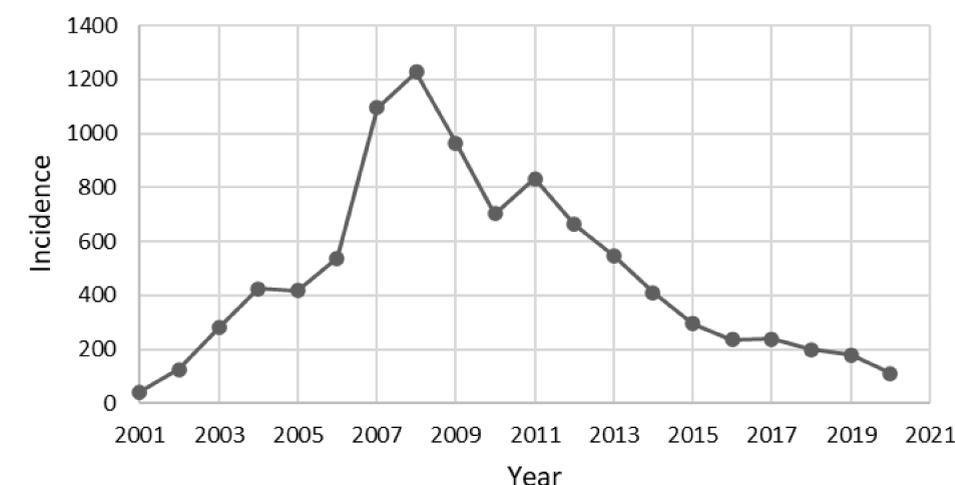
Table 1: Top 4 reasons of exposure

Age groups (years) (n)	Reasons of exposure			
	Unintentional – general (%)	Unintentional – misuse (%)	Unintentional - therapeutic error (%)	Adverse reaction (%)
0-5 (1,684)	1652 (98.1)	19 (1.1)	6 (0.4)	1 (0.1)
6-12 (575)	379 (65.9)	131 (22.8)	39 (6.8)	8 (1.4)
13-19 (1,629)	808 (49.6)	582 (35.7)	102 (6.3)	84 (5.2)
20-39 (2,525)	1109 (43.9)	999 (39.6)	167 (6.6)	176 (7.0)
40-59 (1,836)	799 (43.5)	737 (40.1)	148 (8.1)	118 (6.4)
60+ (1,278)	541 (42.3)	522 (40.8)	123 (9.6)	77 (6.0)
<b>Overall (9,527)</b>	<b>5288 (55.5)</b>	<b>2990 (31.4)</b>	<b>585 (6.1)</b>	<b>464 (4.9)</b>

Table 2: The top 20 most common symptoms (includes related and unknown if related to exposure)

Symptoms	n (%)
Throat irritation	689 (7.2%)
Nausea	514 (5.4%)
Vomiting	508 (5.3%)
Oral irritation	334 (3.5%)
Abdominal pain	282 (3.0%)
Other - miscellaneous	282 (3.0%)
Cough/ choke	129 (1.4%)
Ocular - irritation/ pain	97 (1.0%)
Edema	72 (0.8%)
Dermal - irritation/ pain	64 (0.7%)
Pain (not dermal, GI, ocular)	46 (0.5%)
Diarrhea	33 (0.3%)
Erythema/ flushed	28 (0.3%)
Red eye/ conjunctivitis	28 (0.3%)
Chest pain (including noncardiac)	15 (0.2%)
Oral burns (including lips)	15 (0.2%)
Headache	14 (0.1%)
Dyspnea	13 (0.1%)
Rash	12 (0.1%)
Drowsiness/ lethargy	11 (0.1%)

Annual incidence of teeth-whitening exposures, 2001-2020



- N = 9,527; median age 24 (IQR: 13, 48); 6226/9527 female (65.4%)
  - 3,373 (35.4%) were minors
- Exposures peaked at 1,227 cases in 2008
- Most patients were managed on-site (8,998, 94.4%)
  - 202 (2.1%) cases were referred to a healthcare facility by poison centers
  - 208 (2.2%) cases were already at a healthcare facility
- Known outcomes with moderate effects were n = 59 and with major effects was n = 1
- 193 cases had duration of effects > 24 hr