Table 1
Patient demographics and assault characteristics.

	White	Black
Total	1862 (83.3%)	372 (16.7%)
Age of victim, mean (SD)	25.2 (11.1)	26.3 (13.2)
Marital status (% single)	75.7%	76.6%
No prior history of sexual intercourse	12.4%	9.5%
Alcohol or drug use <24 h	58.3%	53.6%
Last consensual intercourse <72 h	19.8%	23.1%
Time interval to exam, mean hrs (SD)	17.4 (7.0)	18.0 (9.3)
Police report filed	77.5%	83.6%
Known assailant	73.9%	73.7%
Multiple assailants	9.0%	12.1%
Type of coercion		
Restraint used	36.6%	37.1%
Use of weapons	16.0%	18.3%
Victim sleeping/drugged*	24.3%	19.9%
Type of sexual assault		
Vaginal	85.4%	88.2%
Oral	26.9%	28.5%
Anal	13.2%	11.8%
Digital	27.6%	23.9%
Nongenital injuries (%)	53.0%	47.6%
Anogenital injuries (%)*	76.1%	61.9%
Anogenital injuries, mean (SD)*	2.3 (1.7)	1.6 (1.2)

* Indicates significance at the $p < 0.001$ level.

greater prevalence of documented anogenital injuries (76% vs. 62%, $p < 0.0001$). The localized pattern of anogenital injuries was similar in both cohorts; typically involving the fossa navicularis, followed by the posterior fourchette, labia and hymen. The most common type of injury in all patients was lacerations; however, whites had a greater incidence of documented erythema (32% vs. 23%, $p < 0.001$).

Despite the use of colposcopy with nuclear staining and digital imaging, forensic examiners in this community-based study consistently documented fewer anogenital injuries in black women. Our study limitations include retrospective study design, a single urban clinical center, and the variability in skin pigmentation across and within races and ethnicities. Recognizing that whites do not necessarily have low amounts of skin pigmentation and blacks a high amount of skin pigmentation, our findings suggest that individuals with darker skin may be at a disadvantage for injury identification despite colposcopy and nuclear staining techniques. In a similar study of sexual assault cases, Cartwright found that white women of all ages had almost twice as frequent anogenital injuries as black women [4]. Sommers et al. also found a significant association between race (black vs white) and genital injury in a community sample of sexual assault survivors and concluded that the odds for genital injury among whites was more than four times greater than blacks [5]. Coker and colleagues found that among male sexual assault survivors, their race (being white) was significantly associated with traumatic physical injury [6].

An alternative explanation for our findings is that sexual assault in white victims was associated with more violent behavior. However, the victim demographics were similar regarding weapon use, location, victim incapacitation, multiple assailants, or known assailant (Table 1). An alternative but less likely explanation is that differences may exist that make skin of some populations more resistant to injury than other populations. This has not been well studied in the medical literature. Further prospective work is needed to understand the racial/ethnic differences in genital injury prevalence and to determine if these differences are related to lack of sensitivity of the current forensic exam procedures or innate differences in the properties of the skin.

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A proposal for prospective evaluation of elderly subjects with low Glasgow Coma Scale

The favourable outcomes reported following traumatic brain injury (TBI) [1] will enhance optimisation of the management of patients of mean age 36 (Standard Deviation 14) with Glasgow coma scale (GCS) 4–5. The same will be true of patients of mean age 24 (Standard Deviation 23) with GCS 1–3. What we now need is a similar study to be conducted in patients aged 65–85 with traumatic brain injury. In a previous retrospective study which enrolled 66 patients with traumatic intracranial haematomas in that age group, all 18 patients with GCS of 4 or less, and all 22 patients with unilateral or bilateral non-reactive pupillary dilatation had a poor outcome. However, that study did not identify how many patients with bilateral fixed dilated pupils belonged to the category of GCS 4 or less [2].

Thanks to increasing uptake of oral anticoagulants in nonvalvular atrial fibrillation [3] we should anticipate an increase in incidence of intracranial bleeding attributable to traumatic brain injury. The management of elderly patients who incur that complication will need to be informed by results from prospective studies which focus on elderly subjects with GCS 4 or less so as to validate or refute criteria for surgical intervention [2,4] used in those patients.

In the latter retrospective study of 112 consecutive patients aged 65 or more with traumatic intracranial haematoma (TIH), surgery was performed in 70. Multivariate logistic regression analysis revealed that GCS of 5 or less was significantly ($P < 0.001$) associated with unfavourable outcome. Nevertheless, patients undergoing surgery were significantly ($P <$

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0.001)less likely to have an unfavourable outcome (52.9% vs 95.2%) at 6 months after injury compared with patients managed conservatively [4].

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Unsupervised toothbrushing: Risk of airway injury in young children

Despite being an important personal hygiene tool, the toothbrush has the ability to cause significant injury. Oral airway injuries from impalement can be the most serious and even life-threatening [1,2]. Younger children are often injured [3-5] and the severity of the injuries may require multiple medical specialties. Several recent visits to our emergency department where children were injured by improper use of toothbrushes have occurred. One in particular required rapid surgical management due to carotid artery proximity.

A literature search was performed in PubMed as described by Olivera et al. except limiting the results to publications since 2014, which returned 12 results [5]. PubMed was queried with the following search terms: "(toothbrush*) AND ((“2014/01/01” [PDat]: “2018/12/31” [PDat]))" returning 1324 results (performed 03/2018). These were imported to EndNote (Clarivate Analytics, Philadelphia, PA). Titles and keywords were queried with the following terms: injur*, trauma, foreign, case, adverse, airway, and pharyn* returning 171 publications. These publications were manually screened by title and abstract. Bibliographies were screened for additional reports. The majority of the resulting 29 publications contained reports of damage to the airway [1-4,6-16] from toothbrush injury (Fig. 1). Other major contributors were ingestion [17-25], epilepsy [26,27], and others [28-30]. The median age of case reports involving oral/airway injuries from a toothbrush was 2.1 years old (range: 1 year to 45 years old).

The National Electronic Injury Surveillance System (NEISS) database was used to query oral airway injuries involving toothbrushes presenting to the ED. This included cases from January 1, 2006 – December 31, 2016 (search performed 03/2018). The search included a product codes of 1608 (“powered toothbrush or oral irrigator”) and 1629 (“nonelectric toothbrush”), or a screening of “toothbrush,” “brushing teeth,” “brushing his teeth,” or “brushing her teeth” in the free-text narrative.

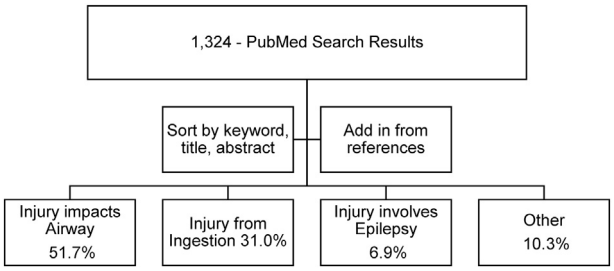

Fig. 1. Pubmed database search outcomes of toothbrush injuries resulted in 4 major categories of reports after literature selection.

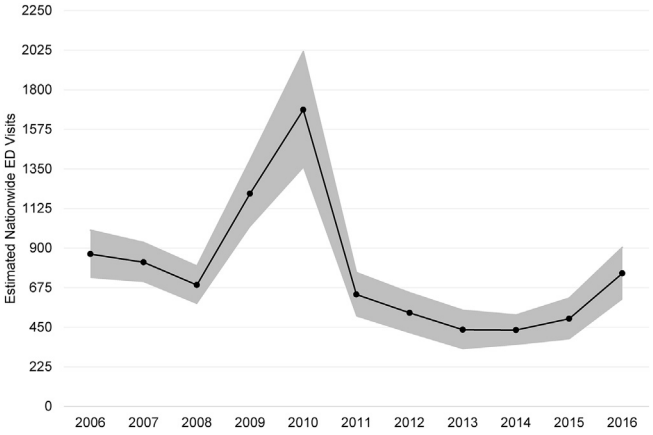

Fig. 2. The NEISS estimated emergency department visit for toothbrush injury from 2006 to 2016 (95% confidence limits shaded).

The NEISS database revealed a nationwide estimate of 8566 oral/airway injuries (95% confidence interval: 6988–10,144) in the ten years queried based on 257 incidences reported by the NEISS database (Fig. 2). There was a steep drop in incidences beginning in 2011. This decline should not be interpreted as a drastic change to injury rates or a vast nationwide-improvement of oral hygiene routine supervision.

Table 1
The demographics of the NEISS database query are summarized, along with information about discharge information.

	N (%)
Sex	
Male	124 (48.2)
Female	133 (51.8)
	n.s. ($P = 0.57$)
Age	
0–4	162 (63.0)
5–9	42 (16.3)
10–59	45 (17.5)
>60	8 (3.1)
	($P < 0.001$)
Race	
White	115 (44.7)
Black	40 (15.6)
Hispanic	17 (6.6)
Asian	6 (2.3)
Other	7 (2.7)
Not stated	72 (28.0)
Disposition	
Treated in ED and released	225 (87.5)
Treated in ED and admitted	26 (10)
Treated in ED and transferred	1 (0.4)
Held for observation	1 (0.4)
Left without being seen	4 (1.6)
Fatality	0