

Absence of Anogenital Injury in the Adolescent/Adult Female Sexual Assault Patient

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Documentation from sexual assault medical-forensic examinations will often note that no injury was found to the female genitalia or anus¹. Rates of sexual assault injury vary widely in published reports and may be impacted by a variety of issues, including the types of techniques used to assess the patient and the amount of time between the assault and the exam. The absence of anogenital injury does not mean that a sexual assault didn't occur. Anticipating the circumstances when injury will be identified is a challenge.

- A review of 43 studies by Carter-Snell, in 2007, found that on average, 55% of study participants had no anogenital injury.²
- Sugar, Fine & Eckert found, in a 2004 study, that only 20% of patients in their study had anogenital injury.³
- Drocton, Sachs, Chu, and Wheeler, in a 2008 review of more than 2,800 medical records, reported that half of their study participants had no anogenital injury.⁴
- More recent studies by Maguire, Goodall, and Moore, in 2009, and McLean, et al., in 2011, found that 60% (n=164) and 77% (n=500) of their study participants, respectively, had no anogenital injury.⁵
- In Rosay and Henry's 2008 study, only 43% of participants (n=813) had anogenital injury. Recent sexual activity (<96 hours) decreased the likelihood of anogenital injury, as did a report of ejaculation during the assault. Among the factors that increased the likelihood of anogenital injury was the presence of non-genital injury. Victim use of alcohol and/or drugs at the time of the assault did not seem to predict if there would be injury.⁶
- Never having experienced intercourse prior to the assault was noted in multiple studies to increase the incidence of anogenital injury.⁷

How the patient is examined impacts reported injury rates in the literature. This is of particular importance because studies illustrate that simply looking at the genitalia or anus with the naked eye (direct visual inspection) is often insufficient for identifying genital injury that may be present. Specialty techniques, such as colposcopy and other types of digital magnification, as well as foley catheters and toluidine blue dye⁸ consistently allow for better injury identification on the part of the examiner. Zink, et al. found that more anogenital injuries were noted with the use of toluidine blue dye and colposcopy than looking with the naked eye alone.⁹ Furthermore, in evaluating anal injury specifically, toluidine blue dye was significantly more likely to help identify injury than looking at the area with or without magnification. Jones, et al. found a 50% increase in identifying anogenital injury when using a foley catheter with adolescent sexual assault patients.¹⁰

Very few studies have specifically examined injury from anal penetration. Most studies that analyze anal trauma do so in a larger context of all types of sexual assault, and no attempt is made to identify the frequency of anal injury solely in those patients who have experienced anal penetration. Hilden, et al. did look at anal injury in those patients reporting anal assault—while their study found that women who were anally penetrated were at greater risk for anogenital injury, ultimately, only 53% had anogenital injury, a figure in line with general findings of anogenital injury in sexual assault patients.¹¹ Sugar, et al. identified anal penetration as one factor that increased the likelihood of anogenital injury.¹² In their analysis of 141 patients who had been anally penetrated, 28% had some type of anogenital injury (unspecified), with 16% positive for anal tearing injuries (lacerations). Rosay and Henry also found that odds of anogenital injury were greater with anal penetration.¹³ Among

patients who required an examination of the anal canal and rectum (indicated by a report of anal penetration or relevant symptom of anal trauma, such as rectal bleeding), 64% had injury, although the locations of those injuries were not broken out in their study. Fully one third had no anogenital injury of any type.¹⁴

Age appears to be a factor in the incidence of anogenital injury. Rosay and Henry found that 12 to 17 year olds in their study were more likely to have anogenital injury than those 18 to 49.¹⁵ Drocton, et al. found that subjects between 12 and 21 were more likely to have anogenital injury than those aged 21 to 40.¹⁶ In one of the few studies comparing older sexual assault patients who had reached menopause to younger adult women, Jones, et al. found that the group of older women had a higher incidence of anogenital injury.¹⁷ This may be due to the differences in the pliability and elasticity of the tissues, impacted by the absence of estrogen in the postmenopausal patient.

Timing of the medical-forensic examination most certainly impacts the ability to identify rapidly healing anogenital injury. Its absence in some cases may be due to a delay in examination. Grossin, et al. looked at findings in patients examined before and after 72 hours from the time of assault.¹⁸ Not surprisingly, genital injuries, such as tearing to the area just below the vaginal opening, and anal injuries were noted with greater frequency in the patients examined within 72 hours of assault. Several other studies found increased likelihood of anogenital injury in patients examined within 24-48 hours of assault.¹⁹

Finally, it should be noted that emerging research also indicates that injury is less likely to be identified, even when present, in women with darker skin.²⁰ Sommers, et al. found that in total 55% of the subjects in their study had some type of anogenital injury. However, when analyzed by race, only 43% of Black women had injury, compared to 68% of Caucasian women.²¹

In summary, an absence of anogenital injury in the sexually assaulted patient is relatively common. Many patients who have been sexually assaulted, anally and vaginally, have no visible injury after the event. A lack of studies that explicitly look at anal penetration and subsequent injury makes it difficult to know how often that type of assault results in anogenital findings. Even in cases where there may be injury, the ways in which the anogenital area is assessed and the timing of that assessment can impact identification. Moreover, skin tone can make it more difficult to identify injury, regardless of whether or not specialty techniques, such as colposcopy, are used. Finally, the incidence of anogenital injury may be impacted by the age of the patient, with postmenopausal women having greater frequency of anogenital injury findings than younger women.

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ENDNOTES

¹ While this paper specifically examines the absence of injury in adult and adolescent cases of sexual assault, this is also true in pediatric cases.

² Catherine Joan Carter-Snell, *Understanding Women's Risk for Injury from Sexual Assault* (October 2, 2007) (unpublished Ph. D. dissertation, University of Alberta)(on file with Book and Record Depository, University of Alberta).

³ N.F Sugar, D.N. Fineb & L.O Eckertc, *Physical Injury After Sexual Assault: Findings of a Large Case Series*, 190 *AM. J. OBSTETRICS & GYNECOLOGY* 71 (2004).

⁴ Peter Drocton, Carolyn Sachs, Lawrence Chu & Malinda Wheeler, *Validation Set Correlates of Anogenital Injury After Sexual Assault*, 15 *ACAD. EMERGENCY MEDICINE* 231 (2008).

⁵ Winifred Maguire, Edward Goodall & Tara Moore, *Injury in Adult Female Sexual Assault Complainants and Related Factors*, 142 *EUR. J. OBSTETRICS & GYNECOLOGY & REPROD. BIO.* 149 (2009); Iain McLean, Stephen A. Roberts, Cath White & Sheila Paul, *Female Genital Injuries Resulting From Consensual and Non-consensual Vaginal Intercourse*, 204 *FORENSIC SCI. INT'L.* 27 (2011).

⁶ Andre' B. Rosay & Tara Henry, Nat'l Inst. of Justice, *Final Report: Alaska Sexual Assault Nurse Examiner Study* (2008), available at <https://www.ncjrs.gov/pdffiles1/nij/grants/224520.pdf>.

⁷ Sugar, *supra* note 3; Catherine White & Iain McLean, *Adolescent Complaints of Sexual Assault : Injury Patterns in Virgin and Non-Virgin Groups*, 13 *J. CLINICAL FORENSIC MED.* 172 (2006); Drocton, *supra* note 4.

⁸ A colposcope is a lighted magnifying instrument that allows greater visualization of anogenital injury. The foley catheter is a flexible tube with a balloon on the end that, when inserted into the vagina and inflated with air, can be used to push hymenal tissue forward for ease of inspection. Toluidine blue dye is a nuclear stain that gets taken up by breaks in the skin and acts as a sort of highlighter.

⁹ Therese Zink, Jamison D. Fargo, Rachel B. Baker, Carol Buschur, Bonnie S. Fisher & Marilyn S. Sommers, *Comparison of Methods for Identifying Anogenital Injury After Consensual Intercourse*, 39 J. EMERGENCY MED. 113 (2010).

¹⁰ Jeffrey S. Jones, Chris Dunnuck, Linda Rossman, Barbara N. Wynn & Michael Genco, *Adolescent Foley Catheter Technique for Visualizing Hymenal Injuries in Adolescent Sexual Assault*, 10 ACAD. EMERGENCY MED. 1001 (2003).

¹¹ Malene Hilden, Berit Schei & Katrine Sidenius, *Genitoanal Injury in Adult Female Victims of Sexual Assault*, 154 FORENSIC SCI. INT'L. 200 (2005).

¹² Sugar, *supra* note 3.

¹³ Rosay, *supra* note 6.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ Drocton, *supra* note 4.

¹⁷ Jeffrey S. Jones, Linda Rossman, Renae Diegel, Phyllis Van Order & Barbara N. Wynn, *Sexual Assault in Postmenopausal Women: Epidemiology and Patterns of Genital Injury*, 27 AM. J. EMERGENCY MED. 922 (2009).

¹⁸ Cécile Grossin, Isabelle Sibille, Geoffroy Lorin de la Grandmaison, Ahmed Banasr, Fabrice Brion & Michel Durigon, *Analysis of 418 Cases of Sexual Assault*, 131 FORENSIC SCI. INT'L. 125 (2003).

¹⁹ Sugar, *supra* note 3; Drocton, *supra* note 4.

²⁰ Marilyn S. Sommers, Therese M. Zink, Jamison D. Fargo, Rachel B. Baker, Carol Buschur, Donna Z. Shambley-Ebron & Bonnie S. Fisher, *Forensic Sexual Assault Examination and Genital Injury: Is Skin Color A Source of Disparity?* 26 AM. J. EMERGENCY MED. 857 (2008); Marilyn S. Sommers, Jamison D. Fargo, Rachel B. Baker, Bonnie S. Fisher, Carol Buschur & Therese M. Zink, *Health Disparities in the Forensic Sexual Assault Examination Related to Skin Color*, 5 J. FORENSIC NURSING 191 (2009).

²¹ *Id.*

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