Summary of changes by chapter

Changes to 2008 edition of The Physical Signs of Child Sexual Abuse

General update to structure

The structure of the book has been revised to include a number of new chapters*:

- Membership of the Project Board and Working Groups
- Stakeholder Organisations
- Acknowledgements
- Chapter 1. Introduction
- Chapter 2. Methodology
- Chapter 3. Genital signs of sexual abuse in girls
- Chapter 4. Genital Bleeding in prepubertal girls*
- Chapter 5. Anal signs of child sexual abuse
- Chapter 6. Genital signs of sexual abuse in boys
- Chapter 7. The extent of anogenital signs at examination
- Chapter 8. Anogenital signs of accidental injuries in girls and boys*
- Chapter 9. Healing of anogenital Injuries*
- Chapter 10. Sexually transmitted infections
- Chapter 11. Good practice
- Chapter 12. Research priorities
- Abbreviations
- Glossary
- References

Membership of the project board and working groups

The Project Board and Working Group membership lists have been revised to reflect changes for the 2015 edition of *The Physical Signs of Child Sexual Abuse*.

The Royal College of Physicians of London and The Faculty of Forensic & Legal Medicine remain collaborators, while The American Academy of Pediatrics is a new collaborator to the 2015 edition.

Stakeholder organisations

Stakeholder organisation contacts have been revised and new stakeholders added, including the following:

- American Academy of Pediatrics
- Association of Paediatric Anaesthetists of Great Britain and Ireland
- British Association of Paediatric Surgeons
- British Association of Paediatric Urology
- British Society for Paediatric Dermatology
- British Society for Paediatric Endocrinology and Diabetes
- British Society of Paediatric and Adolescent Gynaecology
- College of Emergency Medicine

Acknowledgements

This section has been updated.

Preface

The Preface has been retitled as the *Foreword*, and has been written by Andrew McFarlane (The Rt. Hon. Lord Justice McFarlane).

Chapter 1. Introduction

Chapter 1 (Introduction) and 2 (Responding to concerns) have been merged to form one chapter.

Chapter 2. Responding to concerns

As above, this Chapter has been merged with Chapter 1 (Introduction).

Chapter 3. Methodology

Chapter updated to describe the methods used to develop the 2015 update, which includes three new systematic reviews:

1. Accidental ano-genital injuries
2. Healing of ano-genital injuries in boys and girls
3. Causes of vaginal bleeding in the prepubertal girl

Chapter 4. Genital signs of sexual abuse in girls

Evidence-based additions
Six (6) new studies have been added to the evidence-based section of the chapter, along with additional references mentioned in the introduction sections. The new studies are as follows:

1. Anderst, J., Kellogg, N., Jung, I. Reports of repetitive penile-genital penetration often have no definitive evidence of penetration. Pediatrics 2009;124(3):e403-e409.
2. DeLago, C., Deblinger, E., Schroeder, C., et al. Girls who disclose sexual abuse: urogenital symptoms and signs after genital contact. Pediatrics 2008;122(2):e281-e286.
3. Maguire, W., Goodall, E., Moore, T. Injury in adult female sexual assault complainants and related factors. Eur J Obstet Gynecol Reprod Biol 2009;142(2):149-153.
4. McCann, J., Miyamoto, S., Boyle, C., et al. Healing of nonhymenal genital injuries in prepubertal and adolescent girls: a descriptive study. Pediatrics 2007;120(5):1000-1011
5. Myhre, A. K., Myklestad, K., Adams, J. A. Changes in genital anatomy and microbiology in girls between age 6 and age 12 years: a longitudinal study. J Pediatr Adolesc Gynecol 2010;23(2):77-85.
6. Yanoh, K., Yonemura, Y. Severe vaginal ulcerations secondary to insertion of an alkaline battery. J Trauma 2005;58(2):410-412.

Language
The language throughout the chapter has been improved.

Tables
Tables 3 (*Mean horizontal hymenal orifice diameters (mm) in the supine position in prepubertal sexually abused and non-abused girls*) and 4 (*Width of the hymenal membrane in mm (measured at 6 o'clock in the supine position) in prepubertal sexually abused and non-abused girls*) have been removed.

Evidence statements and issues for clinical practice
The evidence statements have been updated accordingly and where necessary proportions have been added to indicate the percentage of children involved. Points to note are as follows:

Erythema

2008 edition	2015 edition
Evidence statements	
Genital erythema, redness or inflammation has been reported in sexually abused prepubertal girls (one study) and in 1% of girls selected for non-abuse (one study). Further evidence is needed to determine the significance of this. In pubertal girls, erythema is seen in a proportion of girls who allege penile penetration and are examined within 72 hours after the abuse. Further evidence is needed to determine the significance of this.	Genital erythema, redness or inflammation is non-specific. The estimation of the degree of redness is subjective and may be influenced by skin pigmentation. Erythema has been reported in 35% of sexually abused prepubertal girls and in 1% of girls selected for non-abuse. In pubertal girls, erythema is seen in 13% to 32% of girls who allege penile-vaginal penetration and are examined within 24 hours to two weeks after the abuse.
Issues for clinical practice	
Early examinations are more likely to detect erythema. If this clinical sign is of concern then the child should be re-examined to assist with diagnosis. There are many other possible causes of erythema, which should be considered in the differential diagnosis. Erythema may be more difficult to detect in pigmented skin.	Early examinations (within 72 hours) are more likely to detect erythema. The presence of erythema on examination usually means the trauma was recent. There are many other possible causes of erythema, which should be considered in the differential diagnosis. Erythema may be more difficult to detect in pigmented skin.

Oedema

2008 edition	2015 edition
Evidence statements	
No changes made apart from added proportions, to indicate the percentage of children involved.	
Issues for clinical practice	
Early examinations are more likely to detect oedema.	Early examinations (within 72 hours) are more likely to detect oedema.

If this clinical sign is of concern, then the child should be re-examined to assist with diagnosis. There are many other possible causes of oedema, which should be considered in the differential diagnosis.	Severe oedema may mask other clinical signs. The child should be re-examined when oedema has subsided to look for other evidence of trauma. There are many other possible causes of oedema, which should be considered in the differential diagnosis

Genital bruising

2008 edition	2015 edition
Evidence statements	
Genital bruising has been reported in prepubertal girls alleging vaginal penetration examined soon after the abusive episode. It has not been reported in the only study of prepubertal girls selected for non-abuse that looked for it. There is some evidence that genital bruising is associated with sexual abuse in pubertal girls.	Genital bruising has not been reported in studies of prepubertal girls selected for non-abuse. Genital bruising has been reported in prepubertal girls alleging vaginal penetration examined soon after the abusive episode (3%), after accidental trauma and also following surgery. There is evidence from four studies that genital bruising is associated with sexual abuse in 5% to 53% of pubertal girls.
Issues for clinical practice	
Early examinations are more likely to detect erythema. If this clinical sign is of concern then the child should be re-examined to assist with diagnosis. There are many other possible causes of erythema, which should be considered in the differential diagnosis. Erythema may be more difficult to detect in pigmented skin.	Early examinations (within 72 hours) are more likely to detect erythema. The presence of erythema on examination usually means the trauma was recent. There are many other possible causes of erythema, which should be considered in the differential diagnosis. Erythema may be more difficult to detect in pigmented skin.

Genital abrasions

2008 edition	2015 edition
Evidence statements	
Genital abrasions have been reported in prepubertal girls with a history of vaginal penetration (one study). In the one study of prepubertal girls selected for non-abuse, abrasions have not been reported. In pubertal girls, (one study) suggests that genital abrasions are seen in a proportion of girls who allege penile penetration and	Genital abrasions are a sign of trauma. Two publications of girls selected for non-abuse examined at mean age of 5.7 years and again at 12 years reported no genital abrasions. Genital abrasions have been reported in a proportion of prepubertal girls with a

are examined within 72 hours after the abuse. Further evidence is needed to determine the significance of this.	history of penile-vaginal penetration and digital-vaginal penetration. In pubertal girls, evidence from four studies suggests that genital abrasions are seen in 1% to 20% of girls who allege sexual abuse and are examined within 72 hours after the abuse.
Issues for clinical practice	
Early examinations are more likely to detect abrasions. If this clinical sign is of concern then the child should be re-examined to assist with diagnosis. There are many other possible causes of abrasions, which should be considered in the differential diagnosis. When abrasions are found on the genitalia, sexual abuse should always be considered.	When abrasions are found on the genitalia, it is usually a sign of trauma. Early examinations (within 72 hours) are more likely to detect abrasions. There are several other possible causes of abrasions, which should be considered in the differential diagnosis. In the absence of a history of accidental trauma, consensual sexual activity or other medical causes, sexual abuse should be considered.

Genital lacerations

2008 edition	2015 edition
Evidence statements	
Hymenal lacerations/tears Hymenal lacerations/tears have been described in prepubertal girls with a history of vaginal penetration/fondling. They are not seen in girls selected for non-abuse. In pubertal girls, hymenal lacerations/tears are seen in a small proportion of girls, 90% of whom alleged penile penetration. *Other lacerations/tears* Posterior fourchette/fossa tears have been reported in prepubertal girls with a history of vaginal penetration. They have not been reported in girls selected for non-abuse. In pubertal girls, posterior fourchette/fossa tears are seen in a large proportion of girls who allege penile penetration and are examined within 72 hours after the abuse. Tears to the posterior fourchette/fossa have been reported more frequently than to the hymen.	Genital lacerations are a sign of trauma. *Hymenal lacerations* Hymenal lacerations were not seen in girls who were selected for non-abuse. Hymenal lacerations have been described in 33% of prepubertal girls with a history of vaginal penetration. In pubertal girls, evidence from five studies show that hymenal lacerations are seen in 3% to 19% of those who allege sexual abuse, including penile penetration. *Non-hymenal lacerations* Posterior fourchette/fossa navicularis lacerations have not been reported in girls selected for non-abuse. They have been reported in prepubertal girls with a history of vaginal penetration. In pubertal girls, posterior fourchette/fossa lacerations/tears are seen in 21% to 40% of girls who allege penile penetration and are examined within 72 hours after the abuse. Lacerations to the posterior

<table>
<tr><td></td><td>fourchette/fossa navicularis have been reported more frequently than to the hymen.</td></tr>
<tr><td colspan="2">Issues for clinical practice</td></tr>
<tr><td>All girls who present with acute genital bleeding need an early assessment (preferably within 24 hours) to elucidate the cause of the bleeding.

Precise terminology is important when describing injuries to the genital area. The terms to describe hymenal disruptions are shown in the Table below:

<table><tr><th>Depth of hymemal disruption</th><th>Terminology to use when acute</th><th>Terminology to use when non-acute</th></tr><tr><td>Partial

Complete to base of hymen</td><td>Laceration

Laceration</td><td>Notch

Laceration</td></tr></table>
When lacerations are found on the genitalia, sexual abuse should be strongly suspected in the absence of a convincing history of penetrating accidental injury.</td><td>When lacerations are found on the genitalia, sexual abuse should be strongly suspected in the absence of a convincing history of penetrating accidental injury.

Precise terminology is important when describing injuries to the genital area. The terms to describe hymenal disruptions are:

<table><tr><th>Depth of hymemal disruption</th><th>Terminology to use when acute</th><th>Terminology to use when non-acute</th></tr><tr><td>Partial</td><td>Laceration</td><td>Notch</td></tr><tr><td>Complete to base of hymen</td><td>Laceration</td><td>Laceration</td></tr></table></td></tr>
</table>

Healing/healed genital injuries

<table>
<tr><th>2008 edition</th><th>2015 edition</th></tr>
<tr><td colspan="2">Evidence statements</td></tr>
<tr><td>Hymenal transections
Hymenal transections are seen in a small proportion of prepubertal girls with a history of penetrative abuse. They are not seen in girls selected for non-abuse.

In pubertal girls, (one study) suggests that hymenal transections are seen in a small proportion of girls with alleged vaginal penile penetration.

Hymenal injuries heal rapidly and except for extensive injuries, can leave no residua.

Scars
Scars in the genital area are not seen in prepubertal girls selected for non-abuse, although there is a lack of good quality studies of sexually abused prepubertal girls.

Scars to the hymen or posterior fourchette have been reported at the site of acute injuries in a small proportion of prepubertal and pubertal sexually abused girls. The evidence suggests that scars are associated with sexual abuse.</td><td>Hymenal transections
A hymenal transection is a sign of healed trauma.

Hymenal transections are very rarely seen in prepubertal girls selected for non-abuse (with one exception, 1/211, considered highly suspicious for abuse by the authors).

Limited evidence from one paper (which described the number of injuries rather than the number of girls with transections) suggests that hymenal transections are seen in a small proportion of prepubertal girls with a history of penetrative abuse (12 transections reported in 24 girls).

In pubertal girls, evidence from six studies suggests that hymenal transections are seen in 3% to 18% of girls with alleged vaginal-penile penetration.

Hymenal injuries heal rapidly and except for extensive injuries, can leave no residua.

Scars
Scars in the genital area are not seen in</td></tr>
</table>

<table>
<tr><td></td><td>girls selected for non-abuse.

Limited evidence suggests that scars to the hymen or posterior fourchette are associated with sexual abuse. However, recent evidence from one multi-centre study on healing suggests that injuries to the hymen can heal completely without scar tissue.</td></tr>
<tr><td colspan="2">Issues for clinical practice</td></tr>
<tr><td>Precise terminology is important when describing injuries to the genital area. The recommended terms to describe hymenal disruptions are shown in the Table below:

<table><tr><th>Depth of hymemal disruption</th><th>Terminology to use when acute</th><th>Terminology to use when non-acute</th></tr><tr><td>Partial</td><td>Laceration</td><td>Notch</td></tr><tr><td>Complete to base of hymen</td><td>Laceration</td><td>Laceration</td></tr></table>
The term transection should be reserved for a non-acute injury to the hymen, which is a discontinuity in the membrane that extends through the width of the hymen to its base, so there appears to be no hymenal tissue remaining at that location. This should be confirmed in different examination positions or with different techniques.

When hymenal transections are found, penetrative injury should be strongly suspected.

Although not reported in studies, a linea vestibularis can be mistaken for scar tissue.
• Scars on the hymen or on the posterior fourchette are signs of previous acute genital trauma and the possibility of sexual abuse should be considered.

Scars from hymenal transections, lacerations and tears to the posterior fourchette can persist but may be difficult to detect.

The timing of an abusive event cannot be inferred from the presence of a scar.</td><td>When hymenal transections are found, previous or past penetrative injury should be strongly suspected.

Precise terminology is important when describing injuries to the genital area. The recommended terms to describe hymenal disruptions are:

<table><tr><th>Depth of hymemal disruption</th><th>Terminology to use when acute</th><th>Terminology to use when non-acute</th></tr><tr><td>Partial</td><td>Laceration</td><td>Notch</td></tr><tr><td>Complete to base of hymen</td><td>Laceration</td><td>Laceration</td></tr></table>
The term ‘transection’ should be reserved for a non-acute injury to the hymen, which is a discontinuity in the membrane that extends through the width of the hymen to its base, so there appears to be no hymenal tissue remaining at that location. This should be confirmed in different examination positions or with different techniques.

Scars on the hymen or on the posterior fourchette are signs of previous acute genital trauma. A history of injury should be sought and where lacking sexual abuse should be considered.

Scars from lacerations to the hymen and/or posterior fourchette can persist but may be difficult to detect.

The timing of an abusive event cannot be inferred from the presence of a scar.</td></tr>
</table>

Clefts/notches

<table>
<tr><th>2008 edition</th><th>2015 edition</th></tr>
<tr><td colspan="2">Evidence statements</td></tr>
<tr><td>Clefts/notches in the anterior hymen have been described in newborns and in</td><td>Clefts/notches in the anterior hymen have been described in newborns and in</td></tr>
</table>

prepubertal sexually abused and non-abused girls. Superficial notches in the posterior hymen have been reported in both prepubertal girls with a history of vaginal penetration and prepubertal girls selected for non-abuse. Deep clefts/notches in the posterior half of a non-fimbriated hymen have only been reported in prepubertal girls with a history of vaginal penetration. In pubertal girls, posterior deep notches or complete clefts (transections) have been reported more often in girls with a history of vaginal penetration/consensual sexual intercourse than in girls denying sexual intercourse.	prepubertal sexually abused and non-abused girls. Superficial notches in the posterior hymen have been reported in both prepubertal girls with a history of vaginal penetration and prepubertal girls selected for non-abuse. Deep clefts/notches in the posterior half of a non-fimbriated hymen have only been reported in prepubertal girls with a history of vaginal penetration. In pubertal girls, posterior deep notches or complete clefts (transections) have been reported more often in girls with a history of vaginal penetration/consensual sexual intercourse than in girls denying sexual intercourse (33% vs. 7%). Hymenal lacerations/tears can heal completely without scarring. They may also heal to leave a notch or a full-width transection.
Issues for clinical practice	
The term cleft or notch should be used only to describe a defect in the hymen that does not extend to its base. Attempts have been made to define whether a cleft/notch is superficial or deep (< or > 50%). In practice, it is impossible to be precise with measurements of the hymenal width. In a fimbriated hymen, techniques to separate the hymenal folds will facilitate the visualisation of clefts/notches. Where deep posterior clefts/notches can be clearly visualised, penetrative injury should be considered.	Where deep posterior clefts/notches can be clearly visualised, using two different examining techniques (e.g. supine and prone positions, labial traction and use of swab or catheter to define hymenal anatomy), penetrative injury should be considered. Normal examination does not exclude previous injury as many genital injuries heal without physical signs. The term cleft or notch should be used only to describe a defect in the hymen that does not extend to its base. Attempts have been made to define whether a cleft/notch is superficial or deep (< or > 50%). In practice, it is impossible to be precise with measurements of the hymenal width. In a fimbriated hymen, techniques to separate the hymenal folds will facilitate the visualisation of clefts/notches.

Hymenal bumps/mounds

2008 edition	2015 edition
Evidence statements	
Bumps/mounds are found in newborns,	Bumps/mounds are seen in newborns, non-

prepubertal girls with a history of vaginal penetration and prepubertal girls selected for non-abuse. The evidence does not allow us to distinguish any difference in the configuration of the bump in sexually abused girls or girls selected for non-abuse.	abused and abused populations. The evidence does not allow us to distinguish any difference in the configuration of the bump in sexually abused girls or girls selected for non-abuse.
Issues for clinical practice	
The position of the child and technique of examination can influence the appearance of a bump/mound. Girls should be examined in both the supine and prone position when bumps are noted.	The position of the child and technique of examination can influence the appearance of a bump/mound. Bumps and mounds do not distinguish CSA from non-abuse.

Size of the hymenal orifice

2008 edition	2015 edition
Evidence statements	
There is substantial overlap in the range of mean hymenal diameters between prepubertal sexually abused girls and girls selected for non-abuse. It is non-discriminatory for sexual abuse. A mixed study of prepubertal and pubertal girls has reported a higher mean diameter in girls alleging penetration compared to girls reporting fondling. There is insufficient evidence to determine the significance of the hymenal diameter in pubertal girls.	There is substantial overlap in the range of mean transverse hymenal diameters between sexually abused girls and girls selected for non-abuse. It is non-discriminatory for sexual abuse.
Issues for clinical practice	
Measurement of the hymenal orifice diameter is of little value in diagnosing penetration due to the difficulties in obtaining a measurement, which varies with the examination position, technique, the state of relaxation of the child, age of the child and the skill of the examiner. Measurement of the hymenal orifice is not recommended.	Measurement of the hymenal orifice diameter is of no value in diagnosing penetration due to the difficulties in obtaining a measurement, which varies with the examination position, technique, state of relaxation of the child, age of the child and the skill of the examiner. Measurement of the hymenal orifice is not recommended. Terms such as ‘gaping’ and ‘enlarged hymenal orifice’ are subjective and should no longer be used.

Hymenal width

2008 edition	2015 edition
Evidence statements	

These statements remain unchanged between the editions.	
Issues for clinical practice	
Measurement of the width of the hymen is not recommended due to the difficulties in obtaining accurate measurements. An absent or "narrow" posterior hymenal rim should be confirmed in the knee-chest position in the prepubertal child or using other techniques. In a prepubertal girl, penetrative abuse must be considered where there is complete or almost complete absence of posterior hymenal tissue.	In a prepubertal girl, penetrative abuse must be considered where there is complete or almost complete absence of posterior hymenal tissue. Measurement of the width of the hymen is not recommended due to the difficulties in obtaining accurate measurements. A narrow hymenal rim should be described using photo-documentation. The examiner should state if the narrowing is generalised or localised, comparing the narrow area to the rest of the hymen. An absent or narrow posterior hymenal rim should be confirmed in the knee-chest position in the prepubertal child or using other techniques.

Friability

2008 edition	2015 edition
Evidence statements	
No changes made apart from added proportions, to indicate the percentage of children involved.	
Issues for clinical practice	
Clinicians should note any predisposing conditions of the skin. If the skin splits or cracks resulting in slight bleeding during the examination, this should be noted.	Clinicians should note any predisposing conditions of the skin or genitalia. If the skin splits or cracks resulting in slight bleeding during the examination, this should be noted in the context of the child's medical history and personal hygiene.

Labial fusion

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
If labial fusion is seen, the child should be re-examined. Thick or extensive fusion is less common and merits further investigation as it may be a result of trauma to the genital area. Where there are concerns of sexual abuse, it may be necessary to treat labial fusion in order to visualise the hymen fully.	Extensive labial fusion may obscure the hymen. Where there are concerns of sexual abuse, it may be necessary to consider topical treatment of the labial fusion in order to visualise the hymen fully. Extensive fusion is uncommon and merits further investigation as it may be a result of trauma to the genital area

Vaginal discharge in prepubertal girls

2008 edition	2015 edition
Evidence statements	
No changes made apart from added proportions, to indicate the percentage of children involved.	
Issues for clinical practice	
Although vaginal discharge is very common in prepubertal girls, in most it is culture negative and not significant. There are many possible causes of vaginal discharge. Where a child presents repeatedly with vaginal discharge, a careful history must be taken to exclude the possibility of sexual abuse. The presence of a persistent vaginal discharge should be an indicator for STI testing but a sexually transmitted infection can occur in the absence of a vaginal discharge	Although vaginal discharge is common in girls, in most it is culture negative and not significant. Where a child presents repeatedly with vaginal discharge, a careful history must be taken together with a careful examination to exclude the possibility of sexual abuse. Other possible causes of vaginal discharge (e.g. infection, infestation, foreign body) must be excluded. The presence of a persistent vaginal discharge should be an indicator for STI testing but a sexually transmitted infection can occur in the absence of a vaginal discharge. A foreign body should also be excluded by careful examination.

Vaginal foreign bodies

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
The issues for clinical practice remain unchanged between the editions.	

Chapter 5. Anal signs of child sexual abuse

Evidence-based additions

Seven (7) new studies have been added to the evidence based section of the chapter, along with additional references in the introduction section. These new studies are as follows:

1. Adams, J. A. Medical evaluation of suspected child sexual abuse: 2011 update. J Child Sex Abus 2011;20(5):588-605.
2. Boos, S. C., Rosas, A. J., Boyle, C., et al. Anogenital injuries in child pedestrians run over by low speed motor vehicles: Four cases with findings that mimic child sexual abuse. Pediatrics 2003;112(1 Pt1):77-84.
3. McCann, J., Voris, J., Simon, M., et al. Perianal findings in prepubertal children selected for nonabuse: a descriptive study. Child Abuse Negl 1989;13(2):179-193.
4. Myhre, A. K., Adams, J. A., Kaufhold, M., et al. Anal findings in children with and without probable anal penetration: A retrospective study of 1115 children referred for suspected sexual abuse. Child Abuse Negl 2013;37(7):July.

5. Palusci, V. J., Cox, E. O., Shatz, E. M., et al. Urgent medical assessment after child sexual abuse. Child Abuse Negl 2006;30(4):367-380.
6. Sfriso, F., Masiero S., Mardegan V., Bressan S., Aprile A. Reflex anal dilatation: An observational study on non-abused children. Forensic Sci Int 2014;238:22-25.
7. Watkeys, J. M., Price, L. D., Upton, P. M., et al. The timing of medical examination following an allegation of sexual abuse: is this an emergency? Arch Dis Child 2008;93(10):851-856.

Language

This chapter has been significantly re-written and the language throughout has been improved.

Evidence statements and issues for clinical practice

The evidence statements have been updated accordingly and where necessary proportions have been added to indicate the percentage of children involved. Points to note are as follows:

Anal/perianal erythema

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
Early examinations are more likely to detect erythema. There are many other possible causes of erythema, which should be considered in the differential diagnosis. If this clinical sign is of concern then the child should be re-examined to assist with diagnosis.	Early examinations following abuse are more likely to detect erythema. There are many causes of erythema, which should be considered in the differential diagnosis.

Perianal venous congestion

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
If perianal venous congestion is seen, it should be carefully described.	Perianal venous congestion should be carefully described for future reference if it is seen.

Anal/perianal bruising

2008 edition	2015 edition
Evidence statements	
Anal/perianal bruising has been reported in a small proportion of children alleging sexual abuse (including anal penetration). It has not been reported in children selected for nonabuse.	Anal/perianal bruising is found in 1% to 2% of children alleging sexual abuse and in 10% in two studies selected for anal penetration. It is more commonly seen when the examination is early after the abuse. Anal bruising has not been reported in children selected for non-abuse.
Issues for clinical practice	
Early examinations are more likely to detect anal/perianal bruising.	Early examination is more likely to detect anal/perianal bruising after an injury or

Bruising is a recognised indicator of trauma. If this clinical sign is of concern then the child should be re-examined to assist with diagnosis. There are many other possible causes of bruising, which should be considered in the differential diagnosis. When bruising is found in the anal/perianal area, sexual abuse should always be considered.	allegation of abuse. Bruising is a recognised sign of trauma and if there is uncertainty that this clinical sign is present, re-examination is essential to assist with diagnosis. A history of how the bruising occurred is paramount when determining the differential diagnosis. Where bruising is found in the anal/perianal region and in the absence of clear history of accidental trauma sexual abuse should always be considered.

Anal fissures, lacerations, scars and tags

- This section within the chapter has been divided into two (2) sections; Acute breaks in the perianal skin – lacerations, and Anal scars and tags. The evidence statements have been updated accordingly, as below:

2008 edition	2015 edition
Evidence statements	
<u>Anal fissures, lacerations, scars and tags:</u> One study suggests that acute and chronic anal fissures are a frequent finding in anally abused children. They have also been reported in a small proportion of sexually abused children not specifically selected for anal abuse. A single anal fissure has been reported in the only study of children selected for non-abuse. Anal lacerations/tears are associated with acute sexual assault and have not been reported in children selected for non-abuse. Good evidence suggests anal scars are associated with anal abuse. This evidence comes from children who have been anally abused and children where the type of sexual abuse is not specified. Anal scars were not reported in the only study of children selected for non-abuse. Skin tags are found in children who have been anally abused both in, and away from the midline. They have been reported in a proportion (7%) of children selected for non-abuse but only in the midline.	<u>Acute breaks in the perianal skin – lacerations:</u> Anal lacerations (including fissures and tears) have been found in 15% to 50% of children who have been anally abused, 2% to 15% of those sexually abused (with no further details of the abuse) and in 1% to 3% of children selected for non-abuse. <u>Anal scars and tags:</u> Anal scars have been found in up to 32% of children who have been anally abused, only 1% to 2% of those sexually abused (abuse type not specified) but have not been found in children selected for non-abuse. Anal tags have been found in both anally abused populations and in populations selected for non-abuse. Anal tags outside the midline have only been found in abused children.
Issues for clinical practice	
<u>Anal fissures, lacerations, scars and tags:</u> The presence of an anal fissure, if seen in the context of an alleged anal assault, may provide some corroboration if the	<u>Acute breaks in the perianal skin – lacerations:</u> In the past lacerations and fissures have been assumed to be distinct, however, the

appearance of the fissure is consistent with the timing of the allegation. However, it is essential to exclude other possible causes, such as the passage of a large hard stool or current constipation, particularly where anal fissures are seen in the absence of a disclosure. In children presenting with anal lacerations (a fissure > 1cm in length migrating further from the anal margin), the possibility of sexual abuse should always be considered. In children presenting with anal scars or with anal skin tags outside of the midline, sexual abuse should be considered, although it is essential to exclude other possible causes. Although fissures and lacerations are assumed to be distinct, the difference between the two is often not well defined. To rectify this it is recommended that practitioners should use the terms in accordance with the glossary.	difference between the two is not well defined. It is recommended that the term 'laceration' is used for acute skin breaches in the perianal area, and that the term fissure is dropped when describing signs seen in cases of possible anal abuse. Whilst size of the laceration is important and should be recorded, it should not affect the definition. The possibility of anal abuse should be considered in any child presenting with an anal laceration. When a laceration is discovered without there being disclosure of abuse it is always essential to exclude other causes such as constipation with the passage of large hard stool, and bowel and skin disorders. In the context of an alleged anal assault, the presence of an anal laceration, if consistent with the timing of the assault, provides strong corroborative evidence. A midline fusion defect can be mistaken for a laceration. Follow-up will confirm that a laceration will heal while a midline defect remains unchanged. <u>Anal scars and tags:</u> The findings of perianal scars or tags implies previous trauma to the area. Scars, particularly outside the midline, are strongly suggestive of anal abuse in the absence of other convincing history of witnessed trauma. Tags are found in both abused populations and those selected for non-abuse. If found outside the midline abuse should be considered.

Reflex anal dilation

- This section has been renamed Anal Dilatation, and as such the evidence statements have been updated accordingly, including the addition of proportions.

2008 edition	2015 edition
Evidence statements	
<u>Reflex anal dilatation:</u> Reflex anal dilatation has been described in children who allege anal abuse and sexual abuse. It has been described in a higher proportion of children who allege anal	<u>Anal dilatation:</u> Dynamic anal dilatation or total dilatation of both internal and external anal sphincters in the absence of stool is associated with anal abuse.

abuse than in those who allege sexual abuse. There is a paucity of data on the prevalence of reflex anal dilatation in children selected for non-abuse. However, in one study of children selected for non-abuse, it was noted in 5%. The use of the term "anal gaping" by some authors may reflect what others describe as reflex anal dilatation or anal laxity. There is insufficient evidence to determine the significance of laxity or reduced anal tone in relation to sexual abuse. It has been described in sexually abused children, but there are no studies of anal laxity in children selected for non-abuse.	Dynamic anal dilatation occurring over the first 30 seconds of observation when the child is examined in the LL position is found in a higher proportion (10% to 30%) of children who allege anal abuse than in those who allege sexual abuse (1% to 18%), and in only a few children (0.7% to 1.2%) selected for non-abuse without predisposing factors. External anal dilatation (dilatation of the anal canal but not the rectum) is associated with anal abuse in one very large study. There is insufficient evidence to determine the significance of laxity or reduced anal tone in relation to sexual abuse. It has been described in sexually abused children, but is not mentioned in studies of children selected for non-abuse. There is no published evidence to ascertain whether the presence or absence of stool in the rectum visible via the dilated anal sphincter affects the significance of the finding.
Issues for clinical practice	
If RAD is seen, sexual abuse should always be considered in the context of the history, medical assessment and other anogenital signs. Precise measurements of the diameter of the dilated anal sphincter is not possible, practical or feasible, and is therefore not recommended. However, the doctor should record details of RAD including an approximation of the maximum diameter in the transverse plane (possibly in relation to the breadth of the examiner's finger often close to the anus during gentle traction), whether a view is obtained of the rectum and the presence or absence of stool, examination position and duration of the examination. There is no published evidence to ascertain whether the presence or absence of stool in the rectum visible via the dilated anal sphincter affects the significance of the finding.	The Project Board continues to recommend examination of the child and adolescent in the left lateral position, but now adds that the supine knee-chest position can be successfully used, though there is no published data of comparison. The prone knee chest position is more commonly used in the USA. The examination position should always be stated in the record of the examination. Because of intrinsic inaccuracy of transverse diameter measurements, depending for example on the amount of buttock traction and the measurement device used, the Project Board does not recommend this measurement as part of the anal examination. When describing anal dilatation in a child, it is suggested that certain terms should be used: - Immediate or static (immediate) dilatation: use this term ONLY if dilatation is present AS the buttocks are separated AND when there is no change in the dilatation over a period of 30 seconds.

	- Qualify with ‘external’ (only the anal canal seen) or ‘total’ (if rectum, with the columns of Morgagni above the dentate line, is visible). - If dilatation is total, estimate the maximal transverse diameter as described below. - Note the presence or absence of visible stool. - Dynamic (reflex) anal dilatation: if the dilatation is not present as the buttocks are separated but occurs over the first 30 seconds of observation. - Again, qualify with external or total. - Note whether the dilatation is intermittent. - Note whether stool is visible or not. - Certain terms should not be used: - Gaping: instead use dilatation (static or dynamic), and comment on the extent. Therefore abandon this term. - Laxity/decreased tone: this is a measure of tension (tone), and unless a rectal examination is performed, which should not be routine, and the examiner is experienced in the findings to be expected, or a manometry is undertaken, tension cannot be assessed. Do not use this term. - Visibly relaxed anus: abandon this term (only ever used by Clayden[1]). - Funneling: term to be abandoned. - Winking/twitching: term to be abandoned. - If gross dilatation or dynamic anal dilatation is seen within 30 seconds in the LL position, sexual abuse should always be considered in the context of the history, medical assessment and other anogenital signs, and the absence of neurological conditions. - Although precise measurement of the diameter of the dilated anal sphincter is difficult and likely to be inaccurate, the examiner should be prepared to comment on its degree in the context of previous

	experience and also note whether it is confined to the external sphincter or involves both the external and internal sphincters with a view of the rectum. - There is no published evidence to ascertain whether the presence or absence of stool in the rectum, visible through the dilated sphincter affects the significance of the findings of dilatation or dynamic anal dilatation. Where there is presence of stool in the rectum, the child should be asked to empty their bowels where possible and the child should be re-examined.

Chapter 6. Genital signs of sexual abuse in boys

Evidence-based additions

One (1) new study has been added to the evidence-based section in the chapter, along with additional references mentioned in the introduction sections. This new study is as follows:

- Palusci, V. J., Cox, E. O., Shatz, E. M., et al. Urgent medical assessment after child sexual abuse. Child Abuse Negl 2006;30(4):367-380.

Evidence statements and issues for clinical practice

2008 edition	2015 edition
Evidence statements	
The evidence statement has been revised, and as such the note that there is insufficient evidence to determine the significance of genital injuries in boys in relation to sexual abuse has been removed.	
Issues for clinical practice	
Early examinations are more likely to detect genital injuries in boys. When a boy presents with a genital injury and there is an absence of a supportive history of an accident or the history for the injury is inconsistent, the possibility of CSA should be considered.	Early examinations (within 72 hours) are more likely to detect genital injuries in boys. Although genital injuries in boys are uncommon in CSA, when they occur they are usually on the penis, and tears of the frenulum are common. Accidental injuries are more common on the scrotum than the penis; injuries to the frenulum of the penis are difficult to produce accidentally. When a boy presents with a genital injury and there is an absence of a supportive history of an accident, or if the history for the injury is inconsistent with the explanation, CSA should be considered. Genital images can be captured using a

	colposcope, though possible bite marks, where a forensic odontology opinion is required, may be better recorded by digital hand-held camera.

Chapter 7. Sexually transmitted infections

Evidence-based additions

Please note that while two (2) new studies have been added to the evidence-based section of the chapter, along with additional references mentioned in the introduction sections, the chapter has been moved to Chapter 10 in the 2015 edition.

The new studies are as follows:

1. Unger, E. R., Fajman, N. N., Maloney, E. M., et al. Anogenital human papillomavirus in sexually abused and nonabused children: A multicenter study. Pediatrics 2011;128(3):e658-e665.
2. Whaitiri, S., Kelly, P. Genital gonorrhoea in children: Determining the source and mode of infection. Archives of Disease in Childhood 2011;96(3):247-251.

Language

The language throughout the chapter has been improved.

Evidence statements and issues for clinical practice

The evidence statements have been updated accordingly and where necessary proportions have been added to indicate the percentage of children involved. Points to note are as follows:

Neisseria gonorrhoeae

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
If a child presents with confirmed non-ophthalmic gonorrhoea, the possibility of previous sexual contact should always be considered unless there is clear evidence of perinatal transmission (i.e. confirmed maternal infection at the time of delivery). When a child is diagnosed with gonorrhoea in the absence of a confirmed maternal infection, it is likely that the child has been sexually abused. Consensual sexual activity should be considered. A positive diagnosis in the mother does not exclude child sexual abuse. The diagnosis of gonorrhoea necessitates an urgent referral to child protection services.	If a child presents with confirmed non-ophthalmic gonorrhoea, the possibility of sexual contact should always be considered and it is likely that the child has been sexually abused. In post-pubertal girls consensual sexual activity should be considered. The diagnosis of gonorrhoea in a child under 13 years necessitates an urgent referral to child protection services; children over 13 years need to be considered on a case-by-case basis. A positive diagnosis of *N. gonorrhoeae* in the mother should not be assumed as the mode of transmission and does not exclude child sexual abuse.

Chlamydia trachomatis

2008 edition	2015 edition
Evidence statements	
Penetrative sexual contact is the most likely mode of transmission in prepubertal children with genital infection caused by Chlamydia trachomatis. The evidence does not help to establish the age at which the possibility of vertical transmission can be excluded.	Sexual contact is the most likely mode of transmission in pubertal and prepubertal children with C. trachomatis.
Issues for clinical practice	
If a child presents with a confirmed Chlamydia trachomatis infection, the possibility of previous sexual contact should always be considered unless there is clear evidence of perinatal transmission (i.e. confirmed maternal infection at the time of delivery). When a child is diagnosed with Chlamydia trachomatis in the absence of a confirmed maternal infection, it is likely that the child has been sexually abused. Consensual sexual activity should be considered. A positive diagnosis in the mother does not exclude child sexual abuse. The diagnosis in a prepubertal child necessitates an urgent referral to child protection services.	If a child presents with a confirmed C. trachomatis infection, the possibility of sexual contact should always be considered and it is likely that the child has been sexually abused. In post-pubertal girls consensual sexual activity should be considered. The diagnosis of C. trachomatis in a child under 13 years necessitates an urgent referral to child protection services; children over 13 years need to be considered on a case-by-case basis. A positive diagnosis of chlamydia in the mother should not be assumed as the mode of transmission and does not exclude child sexual abuse.

Bacterial vaginosis

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
The finding of BV is currently not helpful in indicating whether abuse has occurred.	The finding of bacterial vaginosis is currently not helpful in indicating whether abuse has occurred. There is no agreed definition of bacterial vaginosis in prepubertal girls.

Genital mycoplasmas

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
Research is needed on the prevalence and significance of Mycoplasma genitalium in children.	Research is needed on the prevalence and significance of M. genitalium in children. If M. genitalium is found, please discuss

	with a genitourinary physician in case further management is required.

Syphilis

2008 edition	2015 edition
Evidence statements	
There are very few published studies on sexually abused children with syphilis. As a result, the literature cannot help in establishing whether sexual contact is a likely route of transmission in children with syphilis.	Syphilis has been found in limited studies in children who have been sexually abused and sexual contact should be considered.
Issues for clinical practice	
In a child presenting with syphilis, history, examination and syphilis serology in both the child and mother are needed to determine acquired or congenital disease. Despite the lack of evidence and in view of the fact that syphilis is almost exclusively a sexually transmitted disease in adults, sexual abuse should always be considered if vertical, perinatal or blood contamination has been excluded. A positive diagnosis in the mother does not exclude child sexual abuse.	In a child presenting with syphilis, history, examination and syphilis serology in both the child and mother are needed to determine acquired or congenital disease. Despite the lack of evidence and in view of the fact that syphilis is almost exclusively a sexually transmitted disease in adults, sexual abuse should always be considered if vertical, perinatal or blood contamination have been excluded. The diagnosis of syphilis in a child under 13 years necessitates a referral to child protection services depending on the stage of infection and evidence of other transmission modes; children over 13 years need to be considered on a case by case basis. A positive diagnosis in the mother does not exclude child sexual abuse.

Anogenital warts

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions, and proportions have been added to indicate the percentage of children involved.	
Issues for clinical practice	
Sexual abuse must be considered in any child presenting with anogenital warts.	Sexual abuse must be considered in any child presenting with anogenital warts. The diagnosis of genital warts in a child under 13 years of age necessitates referral to child protection services; children over 13 years of age need to be considered on a case by case basis.

Oral warts

2008 edition	2015 edition

Evidence statements
These statements remain unchanged between the editions.
Issues for clinical practice
There are no issues for clinical practice for oral warts.

Genital herpes simplex virus (HSV)

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
In children with genital herpes, CSA should always be considered. Autoinoculation needs to be considered.	In children with genital herpes, CSA should always be considered. Autoinoculation needs to be considered. The diagnosis of genital herpes in a prepubertal child necessitates an urgent referral to child protection services. A positive diagnosis of genital herpes in the mother does not exclude child sexual abuse.

Hepatitis B

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
The issues for clinical practice remain unchanged between the editions.	

Hepatitis C

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
The issues for clinical practice remain unchanged between the editions.	

Human immunodeficiency virus (HIV)

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	
Issues for clinical practice	
The issues for clinical practice remain unchanged between the editions.	

Trichomonas vaginalis

2008 edition	2015 edition
Evidence statements	
These statements remain unchanged between the editions.	

Issues for clinical practice	
In girls with a confirmed infection of Trichomonas Vaginalis, sexual abuse is likely. Consensual sexual activity should be considered. Although there is no evidence to inform the age at which vertical transmission can be ruled out, Trichomonas Vaginalis in girls younger than 2 months may be a result of a perinatal infection maintained by maternal oestrogen, although sexual abuse should still be considered in these children.	In girls with a confirmed infection of T. vaginalis, sexual abuse is likely. Consensual sexual activity should be considered. Although there is no evidence to inform the age at which vertical transmission can be ruled out, T. vaginalis in girls younger than two months may be a result of a perinatal infection maintained by maternal oestrogen, although sexual abuse should still be considered in these children. The diagnosis of T. vaginalis in a child over six weeks and under 13 years of age necessitates an urgent referral to child protection services; children over 13 years of age need to be considered on a case by case basis.

Chapter 8. The extent of anogenital signs at examination

Evidence-based additions

Please note that while two six (6) new studies have been added to the evidence-based section of the chapter, along with additional references mentioned in the introduction sections, the chapter has been moved to Chapter 7 in the 2015 edition.

The new studies are as follows:

1. Adams, J. A. Medical evaluation of suspected child sexual abuse: 2011 update. J Child Sex Abus 2011;20(5):588-605.
2. Anderst, J., Kellogg, N., Jung, I. Reports of repetitive penile-genital penetration often have no definitive evidence of penetration. Pediatrics 2009;124(3):e403-e409.
3. Gavril, A. R., Kellogg, N. D., Nair, P. Value of follow-up examinations of children and adolescents evaluated for sexual abuse and assault. Pediatrics 2012;129(2):282-289.
4. Myhre, A. K., Adams, J. A., Kaufhold, M., et al. Anal findings in children with and without probable anal penetration: A retrospective study of 1115 children referred for suspected sexual abuse. Child Abuse Negl 2013;37(7):July.
5. Palusci, V. J., Cox, E. O., Shatz, E. M., et al. Urgent medical assessment after child sexual abuse. Child Abuse Negl 2006;30(4):367-380.
6. Watkeys, J. M., Price, L. D., Upton, P. M., et al. The timing of medical examination following an allegation of sexual abuse: is this an emergency? Arch Dis Child 2008;93(10):851-856.

Language

The language throughout the chapter has been improved.

Evidence statements and issues for clinical practice

The evidence statement has been revised and proportions have been added to indicate the percentage of children involved.

2008 edition	2015 edition
Evidence statements	

A high proportion of children who have been sexually abused have no anogenital signs at examination. Signs are, however, more common after penetrative abuse.	A high proportion of children who have been sexually abused do not have anogenital signs at examination. Anal signs have been reported in 1% to 95% of children who allege anal abuse. Genital signs have been reported in 9% to 74% of children who allege sexual abuse. Signs are more common: • after penetrative abuse. • if the examination occurs soon after the abuse.
Issues for clinical practice	
A medical examination has limitations in the validation of CSA. Child protection agencies and legal experts should focus their assessment on the history of abuse and associated child and family related factors. The therapeutic value of the medical examination for the health and wellbeing of the child cannot be underestimated.	Normal examination does not exclude previous injury as many genital injuries heal without physical signs. The examination must be done as soon as is practicable (within 72 hours), because many signs heal quickly and leave no trace of trauma. If the child presents outside the time 'limits', the examination should still be done as some clinical signs may persist. The purpose of the medical examination is not only to look for signs but also to ensure the health and well-being of the child, the therapeutic value of which should not be overstated. Reassurance regarding the physical health of the child can be therapeutic for children, young people and their carers. The medical examination may identify and prevent and identify health problems related to, as well as independent of, the abuse, for example cardiac murmurs, asthma, emotional problems, pregnancy, STIs. As a high proportion of children who allege CSA have normal examinations, child protection agencies and legal experts should focus their assessment on the history of abuse and associated child and family-related factors.

Chapter 9. Good practice

Please note that while this chapter has been revised, the chapter has been moved to Chapter 11 in the 2015 edition.

The following have been added to the chapter:

- Disclaimer for USA audiences
- Genital bleeding flow diagram
- Child Sexual Exploitation (CSE)
- Female genital mutilation (FGM)

Research priorities

Please note that while this chapter has been revised, the chapter has been moved to Chapter 12 in the 2015 edition.

New information has been added on the following:

- Information of study type
- Security of diagnosis
- Standardisation of terminology

Abbreviations and glossary

The glossary has been revised, and new terms/list of terms no longer in use have been added.

Frequently asked questions (FAQs)

The FAQ section has been removed.

References

The references have been revised in light of new literature and resources used throughout the update.