

## ADOLESCENT SEXUAL HEALTH

# National guideline for the management of suspected sexually transmitted infections in children and young people

**A Thomas, G Forster, A Robinson, K Rogstad, for the Clinical Effectiveness Group (Association of Genitourinary Medicine and the Medical Society for the Study of Venereal Diseases)**

*Sex Transm Infect* 2002;**78**:324–331

The Children Act 1989<sup>1</sup> defines a child as “a person who has not yet reached 18 years of age.” In England, Wales, and Scotland the present age of consent for heterosexual and homosexual sex is 16 years and in Northern Ireland it is 17 years. The proportion of young people who report heterosexual intercourse before the age of 16 years increased in the 1990s compared with the previous decade.<sup>2</sup>

Although children under 16 years may be involved in consensual sexual activity other issues need to be considered including:

- Risk of sexually transmitted infection (STI)
- Past and continuing sexual abuse/assault
- Undiagnosed mental health problems including self harm, eating disorders, alcohol and substance misuse
- Risk of or involvement in prostitution/commercial sex work
- Vulnerability of those living away from home/accommodated by the local authority
- Vulnerability of those with physical and/or learning disabilities irrespective of age.

In these guidelines, children under the age of 18 years will be referred to as “young people.” The guidelines are primarily directed at the management and care of young people under the age of 16 years but those aged over 16 years may require the same consideration of the factors listed above.

### PRINCIPLES OF CARE (C)

All young people accessing the genitourinary medicine (GUM) service should:

- Expect confidentiality (see section on confidentiality)
- Have trust and confidence in the service
- Be consulted and have choices
- Remain in control of the process, wherever possible
- Be seen in the most appropriate site for optimal care according to local facilities, resources, demand, and trust regulations.

Issues to be considered include:

- Separate “young people clinics” in GUM clinics
- Separate waiting areas for young people in main GUM clinics
- Skills of staff for the management of young people
- Laboratory access
- Flexibility and collaboration between hospital departments, including establishing appropriate guidelines between microbiology, paediatric, GUM and family planning (FP) departments (where applicable)
- Have their attendance fully documented. An “under age attender proforma” for young people under 16 years

attending GUM is a suggested area of good practice (see Appendix 1 on the *STI* website for suggested proforma)

- Be seen by a senior doctor for their first visit (or a senior nurse if family planning/contraceptive advice is requested) or have their notes reviewed by a senior doctor
- Be given the opportunity to be seen without a parent or carer if Gillick competent (see section on consent), but be encouraged to involve a parent or carer with parental responsibility, in their decision process. Their response to this suggestion should be documented
- Be assessed for mental health, substance and alcohol misuse, lifestyle or learning difficulties that may put them at future sexual, emotional, or physical risk and referred to child and adolescent psychiatry (or other agencies) where appropriate
- Be referred to a health adviser (see Appendix 2 on the *STI* website for suggested proforma)
- Receive a follow up visit with senior staff (nursing or medical).

Where a young person has requested HIV testing she/he should receive appropriate information. This should also involve the parent/carer particularly when the young person is not Gillick competent.

### The use of photographs

Local guidelines should be followed when taking photographs of young people and informed consent needs to be obtained from the young person.

### Storage and disclosure of health records

Health records for young people must be kept until the person reaches the age of 25 years. Refer to local trust policy for the storage of child protection records. Disclosure of records raises specific issues with young people under 16 years and parental/guardian rights; it is advisable to seek advice from the trust's solicitors.

### MEDICAL RESPONSIBILITIES

All health professionals, in the National Health Service (NHS), private sector, and other agencies, play an essential part in ensuring that young people and families receive the care, support and services they need to promote a young person's health and development.<sup>3</sup>

Each NHS trust has a named doctor and a named nurse or midwife who take a professional lead for child protection matters within the trust.<sup>3</sup>

All staff working in genitourinary medicine (GUM) should (C):

- Be alert to the possibility of child abuse and neglect
- Be aware of local area child protection committee (ACPC) procedures and protocols

- Know the names of the relevant named and designated professionals
- Be familiar with local procedures for checking the child protection register
- Receive training and supervision needed to recognise and act upon child welfare concerns and to respond to the needs of the young person
- Be aware of the guidelines for the management of young people under 16 years attending GUM clinics
- Know the chain of evidence procedure (see below). All GUM clinics should have (C):
- Guidelines on management of young people under 16 years attending GUM clinics
- Copies of local ACPC procedures and protocols
- Procedures for chain of evidence
- A regularly updated list of child protection contacts (see Appendix 3 on *STI* website)
- Access to child protection training for staff
- Regular audit and review of compliance with guidelines and under 16 years policy
- A nominated consultant physician to take the lead for under 16 year olds who is part of a multidisciplinary team in the department consisting of a nurse and health adviser and others who have received training in child protection issues.<sup>4</sup>

#### SEXUAL ABUSE/SEXUAL ASSAULT (IV)

Sexual abuse involves forcing a young person to take part in sexual activities, whether or not the young person is aware of what is happening. The activities may involve physical contact, including penetrative (for example, rape or buggery) or non-penetrative acts. They may include non-contact activities, such as involving the young person in looking at, or in the production of, pornographic material or watching sexual activities, or encouraging young people to behave in sexually inappropriate ways.<sup>3</sup>

- Sexual abuse can be perpetrated by male and female adults, teenagers, as well as older children
- Young people may often suffer from more than one type of abuse
- Young people may present in a variety of ways with a wide range of symptoms that are summarised in table 1
- The signs of sexual abuse in young people are rarely diagnostic and are listed in table 2. The Royal College of Physicians of London<sup>5</sup> provides the current knowledge base for this subject in the United Kingdom
- Sexual abuse and consensual sexual activity may coexist
- The possibility of sexual abuse needs to be considered in any young person attending a GUM clinic.

#### CONSENT FOR MEDICAL TREATMENT<sup>6-9</sup>

Young people under the age of 16 years, who are able to fully understand what is proposed and its implications, are competent to consent to medical treatment regardless of age (Fraser Ruling, often termed Gillick competence). The more serious the medical procedure proposed a correspondingly better grasp of the implications is required. If a young person is not Gillick competent, consent from a parent or carer with parental responsibility is necessary.

It is preferable that a young person attending a sexual health service has the support of a parent or carer with parental responsibility. Often young people do not wish their parents or carers to be informed of a medical consultation or its outcome. The doctor should discuss the value of parental support with the young person, but respect the young person's wishes, views and confidentiality if they do not wish for

**Table 1** Modes of presentation of child sexual abuse

Disclosure	Child or third party
Physical indicators	Vulval Pain/soreness Bleeding Discharge Anal Bleeding Pain on defaecation Soreness/itching Urinary, dysuria and frequency STI Pregnancy
Psychosomatic indicators	Recurrent abdominal pain/migraine Multiple vague physical complaints Encopresis/enuresis School refusal
Emotional and behavioural indicators	Sleeping difficulties Learning difficulties Behavioural changes Eating disorders Sexualised behaviour, promiscuity, prostitution Depression, anxiety, self mutilation, suicide Delinquency, criminal behaviour Truancy, running away, drug and alcohol abuse

From Hobbs CJ, Hanks HG, Wynne JM. *Sexual abuse the scope of the problem in child abuse and neglect. A clinician's handbook*. Edinburgh: Churchill Livingstone, 1999.

parental involvement. Establishing a trusting relationship between the young person and the healthcare professional at this stage will do more to promote health than to refuse to see the young person without involving the parents or carers with parental responsibility.

#### CONFIDENTIALITY AND CHILD PROTECTION ISSUES<sup>10 11</sup>

The care of the young person must be guided by the standards laid down in statute for sexually transmitted disease (STD) services,<sup>12</sup> the Children Act 1989,<sup>1</sup> the European Convention on Human Rights,<sup>13</sup> and the Human Rights Act.<sup>14</sup> In the future consideration will have to be given to the recommendations of the sex offences review *Setting The Boundaries*<sup>15</sup> if this becomes law.

Ethical and medicolegal difficulties, therefore, accompany caring for sexually active teenagers. The age of consent for heterosexual and homosexual intercourse is 16 years in England, Wales, and Scotland and 17 years in Northern Ireland. Many young people are sexually active below this age and may access sexual health services. For most, sexual activity will be consensual, but the possibility of child sexual abuse needs to be considered. The young person should be questioned to elicit whether sexual activity is voluntary, to ensure there is no coercion (particularly when there is a disparity of age), sexual exploitation, rape, or other sexual abuse.

Where sexual abuse is suspected or disclosed the clinician must work with the young person to support them and address the possible sequelae of STIs, pregnancy, psychological, and psychosexual issues. The clinician has a duty to disclose the information to child protection services but should seek the young person's agreement wherever possible. It may be appropriate to work with the young person over several visits in order to facilitate disclosure unless there is immediate danger to that young person or others. The law permits the disclosure of confidential information necessary to safeguard a young person. Legal advice should be taken in doubtful cases. Disclosure against the young person's wishes is

**Table 2** Anogenital signs in suspected sexual abuse

Classification	Physical signs
Normal, vulvovaginal	Periurethral bands or ligaments Longitudinal intravaginal ridges Hymenal tags (in the newborn) Smooth, non scarred hymenal bumps Smooth clefts in the anterior hymenal rim (3–9 o'clock) Septate hymen Fourchette, midline avascular area
Non-specific, vulvovaginal	Erythema, vascular congestion Friability of perineal skin Vaginal discharge unless caused by STI Fusion of the labia
Supportive Vulvovaginal	Acute injury—eg, localised erythema, oedema, abrasions, bruising Notch in the posterior hymen (below 3–9 o'clock) Scar in posterior fourchette Labial fusion following vulval coitus Transverse hymenal diameter, 1.5 cm
Anal	Anal laxity without other explanation Reflex anal dilatation greater than 1.5 cm and reproducible Acute changes—eg, erythema, swelling, fissures, bruising Venous congestion Chronic changes thickening of the anal verge skin increased elasticity and reduction in the power of the anal sphincter.
Diagnostic Vulvovaginal	Fresh laceration of the hymen Old tear of hymen with scarring or interruption of the hymenal margin Attenuation of the hymen with resultant enlargement of the hymenal orifice Pregnancy in a child under 16 years Positive forensic evidence
Anal	Fresh laceration or scar of the anal mucosa extending beyond the anal verge and onto the perianal skin

From The Royal College of Physicians of London. *Physical signs of sexual abuse in children*. 2nd ed. London: RCP, 1997.

dealt with in the General Medical Council (GMC) guidelines *Confidentiality: Protecting and Providing Information*,<sup>10</sup> in the British Medical Association (BMA) publication *Consent, Rights and Choices in Health Care for Young People*,<sup>11</sup> the Children Act,<sup>1</sup> and the Department of Health (DOH) document *Medical Responsibilities*.<sup>16</sup> Whenever possible the young person should be informed that disclosure will occur.

In practice, the clinician must take into account both the need of the young person for a confidential sexual health service and the need to protect that young person from sexual abuse and sexual exploitation. The clinician also has a duty to consider the possibility that other young people may be at risk of abuse.

### YOUNG PEOPLE INVOLVED IN COMMERCIAL SEX WORK

Young people involved in prostitution should be treated primarily as the victims of abuse, and their needs require careful assessment. They are likely to require the provision of welfare services and, in many cases, protection under the Children Act 1989.<sup>17</sup> There must be a multidisciplinary approach in the GUM setting to provide these young people with STI screening, treatment of STIs detected, vaccination against hepatitis B and advice on contraception, acquisition of HIV, and other STIs. They must also be provided with strategies to assist them in exiting prostitution. Clinicians should encourage the young person to involve carers and work

### Clinicians caring for sexually active young people should follow these principles (C)

- Act in the best interest of the patient
- Work with them to obtain their consent if disclosure is necessary
- Be part of a multidisciplinary team
- Take advice from colleagues
- Follow national guidelines
- Make no assumptions about the young person's sexuality

with the young person to encourage voluntary disclosure<sup>8</sup> to an appropriate agency. It may be possible to work with the young person over several visits in order to facilitate disclosure unless there is immediate danger to that young person or others. Each case should be assessed on an individual basis in collaboration with other team members. Discussion on an anonymous basis with colleagues and professional, regulatory, or indemnifying bodies may be helpful.<sup>8</sup> If the young person cannot be persuaded to agree to voluntary disclosure, and there is an immediate need to disclose information to an outside agency, they should be told what action is to be taken.<sup>8</sup> Where a young person is unable to give or withhold consent, the disclosure information should be given promptly to the appropriate body. The young person should be informed where possible. If you do not believe disclosure is in their best interests, you must be prepared to justify your decision.

Clinics must have close links with the ACPC, and other agencies—for example, police, to enable discussion of cases on either a named or anonymous basis.

Specific information related to Scotland and Northern Ireland, and the possible impact of the European Convention on Human Rights on UK legislation can be found in the BMA publication.<sup>13 14</sup>

### RISK OF INFECTION (III)<sup>18 19</sup>

The risk of a young person acquiring an STI is dependent on several factors including:

- The prevalence of STIs within the local population
- Maternal STI during pregnancy leading to vertical transmission to the infant
- The type of sexual activity—for example, penile, vaginal, or rectal penetration, is more likely to lead to infection than other types of sexual activity
- Injuries of the genital tract. Trauma increases the susceptibility to infection
- The sexual maturity of the young person. A young person has an increased biological susceptibility to carcinogens and STIs because of physical and immunological immaturity of the genital tract
- The lack of use of barrier contraception
- Age at first intercourse and previous sexual activity as these may lead to a longer period of exposure to transmissible agents and an increased number of partners
- Coexistence of other risk behaviours such as drugs or alcohol misuse.

### THE SIGNIFICANCE OF INFECTION (IV)

The significance of an STI requires careful interpretation. It can be used as corroborative evidence and indicate a high probability of sexual abuse. Rarely, it can be conclusive evidence of abuse—for example, when the same STI is identified in the alleged perpetrator and the young person, and other sources of infection have been excluded (for example, perinatal from the mother).

**Table 3** Modes of transmission of STIs in young people

Route	Disease/organism
Transplacental: Intrauterine infection/ascending infection	HIV, HBV, HCV, syphilis, HPV
Perinatal: Transmission via the birth canal	CT, GC, TV, HSV, HPV, HBV, HCV, HIV
Transmission via the breast milk	HIV (syphilis, HBV, HCV, risk unknown)
Direct contact: Non-sexual/autoinoculation	HPV, HSV
Fomite transmission	?TV, ?HPV
Consensual sexual contact	All STIs
Sexual assault	All STIs
Injecting drug use or blood transfusion/blood products	HIV, HBV, HCV

CT = *Chlamydia trachomatis*, GC = *Neisseria gonorrhoeae*, HIV = human immunodeficiency virus, HBV and HCV = hepatitis B and C virus, HPV = human papilloma virus, HSV = herpes simplex virus, TV = *Trichomonas vaginalis*.

**Table 4** Incubation period for STIs and probability of sexual abuse

Incubation period	Probability of abuse
Gonorrhoea: 3–4 days	***(** if child <1 years)
<i>Chlamydia trachomatis</i> : 7–14 days	**(** if child >3 years)
HSV†: 2–14 days	**
<i>Trichomonas vaginalis</i> : 1–4 weeks	*** (if child >6 weeks)
HPV: 1 month to several months or longer	*(** if not perinatally acquired AAP)‡
Bacterial vaginosis	*
Syphilis: up to 90 days	*** (having excluded congenital infection)
HIV: majority seroconvert within 3 months	* (exclude maternal infection)
Hepatitis B: up to 3 months	* (exclude maternal infection)

From The Royal College of Physicians of London. *Physical signs of sexual abuse in children*. 2nd ed. London: RCP, 1997.

\*Possible, \*\*probable, \*\*\*strong probability.

†HSV incubation period possibly longer.

‡AAP (American Academy of Pediatrics) suggests \*\* probability of abuse if HPV not perinatally acquired.

The presence of any STI in young people may indicate that sexual abuse has taken place, but other methods of transmission should be considered (table 3).

- Two reviews<sup>20, 21</sup> concluded that accidental transmission (fomite, close physical contact, or autoinoculation) is an exceptionally uncommon mode of transmission of STIs to young people
- Vertical transmission is a possibility in a young person aged less than 3 years although sexual abuse can also occur within this age group
- Consensual sexual activity and sexual abuse can coexist.

The presence of one STI indicates the need to look for others. The incubation periods for STIs are highlighted in table 4.

### EXAMINATION TECHNIQUES FOR PREPUBERTAL YOUNG PEOPLE (C)

Local guidelines and collaboration between hospital departments should be established with paediatric support. Examinations of young people should be conducted so as to minimise pain and trauma to the young person. The examination of any young person may require more than one appointment to gain their confidence. The examination of prepubertal young people should ideally be done with an appropriately trained paediatrician. The examination for signs of suspected sexual abuse should only be carried out by medical personnel specifically trained in forensic examination of suspected victims of child sexual abuse.

The examination of prepubertal girls is recommended as follows:

- The young person is examined in the supine “frog legged” position (young children can be held on a carer’s lap). The

knee-elbow position can be used to give a better view of the posterior hymen

- The external genitalia should be inspected; the labia majora should be gently separated to view the hymenal orifice; gentle traction at the posterior edge of the labia majora, between the thumb and index finger, allows clearer visualisation of the hymen
- Buttock separation, in the left lateral position, using the palms of both hands to view the anus for 30 seconds.

The examination of prepubertal boys is recommended as follows:

- Young children can be held on a carer’s lap
- The external genitalia should be inspected; the foreskin, if present, should be gently retracted, where possible, to view the urethral meatus and frenulum; the scrotum should be gently palpated to assess for the presence, and any pathology, of both testes
- Buttock separation, in the left lateral position, using the palms of both hands to view the anus for 30 seconds.

### SAMPLING TECHNIQUES (C)

The genital organs of female infants, children, adolescents, and adults have important anatomical and physiological differences. These differences influence the microbiological flora of the genital tract and the sampling sites for screening.<sup>22, 23</sup>

- Sampling techniques must be specific for the sexual maturity of the young person
- The number of samples taken should be the minimum necessary and the least invasive for prepubertal, peripubertal



young people, and victims of sexual abuse/sexual assault. Priority should be to obtain suitable specimens to identify *Neisseria gonorrhoeae* (GC), *Chlamydia trachomatis* (CT), *Trichomonas vaginalis* (TV) and, in the presence of genital ulcers, herpes simplex virus (see Appendix 4 on *STI* website)

- Sterile cotton tip swabs are recommended and these can be moistened with sterile water (or the viral culture medium if performing viral cultures)
- For prepubertal girls, smaller ear, nose, and throat (ENT) swabs are useful for transhymenal vaginal sampling. Avoiding contact with the hymen will reduce discomfort and increase cooperation of the young person. ENT swabs are also useful for male urethral sampling, if undertaken.

Recommended sample sites for prepubertal females include:

- Vulva
- Posterior fourchette
- Posterior vaginal wall.

Vulval or vaginal washings are also suitable. Urethral swabs cause discomfort and should be kept to a minimum.

- Postpubertal females can be screened according to local protocols for female adults if tolerant of speculum examination. In some pubertal females it may be impossible to pass a speculum. Blind vaginal sampling together with urethral and/or urine nucleic acid amplification techniques (NAAT) are advised (see screening protocol, Appendix 4 on *STI* website).
- Screening of male young people will depend on their presenting history and the method of abuse (where suspected). Urethral swabs cause discomfort and their use should be kept to a minimum. Urine NAAT should be considered.

### DIAGNOSTIC METHODS (C)

Most screening tests for STIs have been developed and approved only for genital sites in the adult population. In young people especially when abuse is considered:

- The most sensitive and specific test available for the organism should be used
- Culture tests should be undertaken to identify *N gonorrhoeae*, *C trachomatis* (culture is still the only test currently accepted by the courts although many laboratories no longer provide culture and the sensitivity of the test is sub-optimal. Guidelines are currently under discussion for *C trachomatis* testing in cases of assault), and *T vaginalis* for evidential purposes
- When an organism is isolated the sample should be preserved for future analysis (in case of medicolegal implications) as recommended in the report *The Retention and Storage of Pathological Records and Archives*<sup>24</sup>
- A positive test should be confirmed preferably by a test that involves a different process.

### CHAIN OF EVIDENCE

Where sexual abuse or sexual assault is suspected, or if any prepubertal young person is being screened for STIs the examining physician should use a chain of evidence form. This applies to the screening of family members or an assailant associated with the index case.

The chain of evidence requires that the origin and history of any exhibit to be presented as evidence in a court of law must be clearly demonstrated to have followed an unbroken chain from its source to the court. It is initiated by the physician taking the samples, who must seal the sample, label it fully, and hand it to the next person in the chain.

Sample labelling should identify that the patient is a young person and include:

- The name of the examinee
- Description and site of the sample
- The date and time (24 hour clock)
- Signatures
  - physician initiating the chain
  - subsequent custodians.

All people handling the sample along with the places and conditions of storage must be documented with the date, time, place, and signatures of custodians.

All GUM clinics should have a procedure for chain of evidence and a suggested accompanying form is shown in Appendix 5 on the *STI* website.

### SCREENING FOR STIs (C)

Screening is recommended in all young people who may have been sexually abused or who have been found to have an STI.

Where a young person of less than 3 years has tested positive for an STI, vertical transmission is a possibility but sexual abuse will need to be considered. Where a prepubertal young person above the age of 3 years has tested positive for an STI, sexual abuse is the most likely mode of transmission, but perinatal transmission should be excluded as far as is possible/feasible.

The following management is suggested in addition to screening the young person as indicated in Appendix 4 (on the *STI* website):

- The subject's parents should be offered full STI screening to exclude vertical transmission
- The subject's siblings and other young people/adults in the household should also be offered screening for STIs.

Where sexual abuse is suspected:

- Local procedures should be followed (for example, ACPC procedures, chain of evidence)
- Prepubertal (<11 years) and peripubertal (11–13 years) young people should be seen for a comprehensive medical examination by a paediatrician experienced in sexual abuse evaluation and joint assessments with the relevant professionals should be considered
- Management of victims should address, in addition to child protection issues:
  - Physical injuries
  - Emergency contraception
  - Sexually transmitted infections (STIs)
  - Psychological trauma
  - Counselling
- Referral for multiagency assessment.

### SCREENING/MANAGEMENT SCHEDULE (C)

The scheduling of examinations should depend on the history of abuse/assault and incubation periods of STIs. They should be determined on an individual basis taking into account the young person's (and their parent/carer's) psychological and social needs. A single examination may be sufficient if the young person has been abused over an extended time period by the same person/people or if the last episode of abuse was at least 3 months earlier.

A general guide for examination timing is as follows:

- Immediate (if practical) for oral sampling (if available), serology, and initial specimen collection (some subjects may have undiagnosed pre-existing infection)
- 2 weeks after the initial abuse/assault for initial sampling or repeat sampling (if immediate sampling performed) with a follow up visit for results and counselling at a further 1–2 weeks
- 12 weeks for repeat serology and 6 months in some cases.

Serum samples can be taken and stored for testing at a later date.

The risk of HIV infection should be discussed, as it is a major concern of abused young people. Counselling of the young person will need to be tailored to their age and understanding and should also involve the parent/carer. Ideally and where possible, the alleged perpetrator should be tested first.

Inadequate information on the risks and benefits of post-exposure prophylaxis for HIV following sexual abuse or assault in young people makes routine recommendations impossible.

Hepatitis B vaccination is considered for all adult victims of sexual assault.<sup>25</sup> Inadequate information on the risks and benefits of post-exposure prophylaxis following sexual abuse or assault in young people makes recommendation impossible and vaccination should be considered on an individual basis depending on the type of assault and any risk factors identified in the perpetrator.

### MANAGEMENT OF SPECIFIC SEXUALLY TRANSMITTED INFECTIONS (C)

The following should be read in conjunction with the published UK national guidelines on sexually transmitted infections and closely related conditions.<sup>25</sup> The latest prevalence data are found on the Communicable Diseases Surveillance Centre (CDSC) website.<sup>26</sup>

The modes of transmission for specific STIs are found in table 3. The treatment for specific STIs in young people is shown in Appendix 6 (on the *STI* website).

#### SPECIFIC STIs

##### Chlamydia trachomatis (CT)

###### Prevalence

The risk of perinatal transmission is 50–70% (IV).<sup>27</sup> Infection can occur in the conjunctiva, nasopharynx, rectum, or vagina of infants. Infection may be asymptomatic and persist in the latter two sites for at least 3 years.<sup>28</sup> The prevalence of genital chlamydial infection is highest among sexually active adolescents. The British Cooperative Clinical Group<sup>29</sup> (III) found CT in 12.1% of girls under 16 years and 11.1% in girls 16–19 years (boys were 2.2% and 8% respectively) attending GUM clinics in the United Kingdom. Chlamydial infections have been identified in 1.2%–17% of sexually abused young people when specimens were routinely cultured and coincident infection with CT has been observed in up to 27% of young people with gonorrhoea. The higher rates are more common in post-pubertal young people.<sup>30–33</sup>

###### Clinical features

As with adults, CT infection in young people can be asymptomatic or symptomatic.

##### Gonorrhoea

###### Prevalence

The risk for an infant born to a mother with untreated gonorrhoea of developing gonococcal ophthalmia is approximately 30%.<sup>34</sup> The reported prevalence of gonorrhoea in studies of sexually abused young people ranges from 2.4%–11.2%.<sup>32, 35</sup> The British Cooperative Clinical Group<sup>29</sup> (III) found gonorrhoea in 2.1% of girls under 16 years and 2.0% in girls 16–19 years (boys were 2.9% and 3.5% respectively) attending GUM clinics in the United Kingdom.

###### Clinical features

The bulk of evidence strongly suggests that gonorrhoea in young people over 1 year is sexually transmitted and the isolation of a gonococcal infection is highly suggestive of sexual abuse.<sup>20</sup>

Infection may occur in the conjunctiva, oropharynx, urethra, vagina, endocervix, and rectum. Up to 50% of

infections in women are asymptomatic, particularly pharyngeal (>90%) and rectal infections.<sup>25</sup>

The commonest symptom in prepubertal young people is vaginal discharge. Asymptomatic infection, pelvic inflammatory disease, and perihepatitis can occur but are uncommon (5% had no vaginal discharge in one study of sexually abused pre-teenage girls<sup>36</sup>). Rectal and pharyngeal infection typically are asymptomatic and are often unrecognised.

##### Anogenital warts (AGW)

###### Prevalence

AGW were found in 1.8% of 1538 young people, aged between 1–12 years being evaluated for possible sexual abuse.<sup>33</sup> The incidence of first attack genital wart infections is now higher in teenage girls than in any other age group presenting to GUM<sup>37</sup> (IV).

###### Clinical features and diagnosis

For clinical features see UK national guidelines on sexually transmitted infections and closely related conditions.<sup>25</sup>

Considerable evidence supports the position that AGW in young people appearing after infancy are usually acquired after sexual contact.<sup>38</sup> Anogenital lesions that are recognised within the first year of life are likely to be perinatally acquired. Between 1–3 years after birth uncertainty regarding the origin of newly developing anogenital lesions continues<sup>38</sup> (IV).

###### Management

The management of young people with AGW should follow the sections on “screening for STIs.” In addition

- If AGWs are found in a prepubertal young person, a cervical smear history should be checked for the natural mother
- Currently, DNA subtyping has not been fully evaluated but may have research value
- Suggested good practice would be to follow up prepubertal young people for 1 year to exclude recurrence.

##### Treatment (C) (see Appendix 6 on *STI* website)

In the absence of symptoms consider a period of observation for a minimum of 2 months in case of spontaneous resolution.

The minimum number of treatments that ensure the maximum effect should be used. Treatments<sup>39</sup> (C) in young people have not been adequately researched and the methods used will depend on:

- The location of the AGWs
- The severity
- Age of the young person
- The compliance of the young person
- Previous treatment complications
- The balance between surgery and the benefits of delay in cases where spontaneous resolution may occur
- The preference of the young person and/or their carer.

##### Trichomonas vaginalis (TV)

###### Prevalence

Perinatal infection occurs in approximately 5% of infants born to infected mothers.<sup>40</sup> The organism may persist for up to 9 months in the absence of treatment.<sup>41</sup> TV is uncommon in prepubertal young people.<sup>42</sup> TV is very site specific and non-sexual transmission is believed to be a rare event. The reported prevalence of TV in studies of young people evaluated for suspected sexual abuse ranges from 1–4.7%. The subjects were more likely to be pubertal and to have a vaginal discharge.<sup>32, 35, 43</sup>

###### Clinical features and diagnosis

Vulvovaginitis is the commonest presenting symptom in prepubertal young people.

### Herpes simplex virus (HSV)

Either HSV-1 or HSV-2 can cause genital herpes.

#### Prevalence

The prevalence of genital herpes in prepubertal young people and adolescents is unknown. The risk of acquisition of HSV following an assault is also unknown and the defined incubation period is possibly longer than stated in table 4.

#### Clinical features and diagnosis

For clinical features see UK national guidelines on sexually transmitted infections and closely related conditions.<sup>25</sup>

### Syphilis

#### Prevalence

Congenital syphilis is uncommon in the United Kingdom. Syphilis is uncommon among young people who have been abused.<sup>34</sup> The prevalence of positive serology for syphilis in six surveys of abused young people published from 1988–92 ranged from 0–1.8%.<sup>44</sup> Prepubertal young people with primary or secondary stages of syphilis occurring beyond the neonatal period should be presumed to be victims of sexual abuse.<sup>20</sup>

The incidence of syphilis among adolescents is low; 17 cases in 1989 and 16 in 1990 in the United Kingdom.<sup>45</sup> Most adolescents with syphilis have acquired their disease through consensual sexual activity, although sexual abuse should still be considered as a possibility as studies have demonstrated between 10–32% of adolescents with syphilis had a history of sexual abuse.<sup>34</sup>

#### Clinical features, diagnosis, management

See UK national guidelines on sexually transmitted infections and closely related conditions.<sup>25</sup>

### Human immunodeficiency virus (HIV)

#### Prevalence

The prevalence of infection in young people is unknown but data that exist are on the CDSC website.<sup>26</sup> The incidence of HIV infection acquired by young people through sexual abuse/assault is also unknown. In the United States, one study reported that 14.6% of young people with HIV infection were sexually abused and a second study found positive HIV tests in 0.7% of young people being evaluated for sexual abuse.<sup>46 47</sup>

There are no equivalent UK data.

#### Management

Where a young person is found to have a positive HIV test:

- Maternal HIV status should be ascertained depending on the age of the young person and their lifestyle/risk factors, as some cases of perinatally acquired HIV infection may not present with an AIDS defining illness until over 10 years of age
- Where maternal testing is negative and a transfusion route is excluded, sexual abuse must be suspected and local procedures followed
- The subject should be referred to a paediatrician/centre experienced in the care of young people with HIV and AIDS
- The subject and their parents/carers should receive appropriate counselling and multiagency support
- Sexual contacts should be offered screening and counselling
- A full STI screen should be performed unless already completed

Helpful information can be obtained in *Guidance on Children in Need and Blood-borne viruses: HIV and Hepatitis*.<sup>48</sup>

#### Treatment

The treatment of young people with HIV or AIDS should be carried out in appropriate specialist centres.

### Bacterial vaginosis (BV)

The significance of finding BV in young people is unclear. Sexual transmission has not been clearly documented and it is not regarded as an STI in adults. It is of doubtful significance in the interpretation of abuse. *Gardnerella vaginalis* has been cultured from various sites in the newborn but it has not been established for how long these sites may be colonised. The majority of case reports and studies in young people have been based only on the identification of *G vaginalis*, not on Amsel's criteria. One of the four criteria cannot readily be applied to girls, as during the childhood or prepubertal period the vaginal environment is alkaline. *G vaginalis* has been isolated from vaginal cultures of 1%–32% normal or control young people, compared to 7%–34% in sexually abused or sexually active girls.<sup>44</sup> Hammerschlag *et al* found BV in 13% of sexually abused girls compared with none of the controls.<sup>49</sup> BV may cause a vaginal discharge but also may be asymptomatic.<sup>44 49</sup>

#### Diagnosis

For pubertal girls, Amsel's or Nugent's criteria should be used.

For prepubertal young people a positive whiff test in the presence of abnormal discharge and identification of clue cells on Gram stain is recommended (C).

### AUDITABLE OUTCOME MEASURES

- Training of staff members as percentage of total
- Offer of STI screen and number screened of young people under 16 years
- Percentage of young people under 16 years screened for STIs in above age categories
- Compliance with guidelines
- Management of young people to be raised at induction of all new staff.

### ACKNOWLEDGEMENTS

We thank Janet Wilson, Jan Clarke, and members of the Adolescent Health Special Interest Group, Imtyaz Ahmed-Jushuf and Olwen Williams, pharmacists, Frances Lutterodt, Royal London Hospital and Zuber Mitchla, Royal Free Hampstead NHS Trust.

### MEMBERSHIP OF THE CEG

Clinical Effectiveness Group: chairman, Keith Radcliffe (MSSVD); Imtyaz Ahmed-Jushuf (AGUM); Mark FitzGerald (AGUM); Janet Wilson (Royal College of Physicians GU Medicine Committee); Jan Welch (MSSVD).

### CONFLICT OF INTEREST

None.

### EVIDENCE BASE

Evidence has been sought from Medline, Cochrane Library, and *Physical Signs of Sexual Abuse in Children—Report of a working party of the Royal College of Physicians*, 2nd ed 1997. Additional papers referenced by articles identified by the search strategy were also reviewed. Searches were made from 1966–2000 using key words “Sexually transmitted disease,” “Paediatric,” “Children,” “Sexual abuse,” Chlamydia/Chlamydia trachomatis,” Trichomonas/Trichomonas vaginalis,” “Gonorrhoea,” “Syphilis,” “HIV,” “Human papillomavirus,” “Genital warts,” and key publications since have been incorporated.

### FURTHER READING

Hobbs CJ, Hanks HGI, Wynne JM, eds. *Child abuse and neglect. A clinician's handbook*. 2nd ed (1st ed 1993). Edinburgh: Churchill Livingstone, 1999.

British Psychological Society. *Child abuse—clinical factors in the assessment and management of concern*. A clinical practice guideline commissioned by the British Psychological Society Division of Clinical Psychology, August 2001.



### Future research suggestions

- Data collection as disaggregate or in age ranges of 0–3 years, 3–12, 13–15 years, and number seen for possible abuse
- Rates of STIs in prepubertal young people
- Evaluating NAAT for screening for STIs in young people
- Non-invasive screening methods for the diagnosis of STIs in young people
- The rate of AGW infection in young people born to mothers with present/previous anogenital HPV infection
- Long term sequelae of AGWs in prepubertal young people
- The effectiveness of current treatment methods of AGW in young people
- The prevalence of genital herpes in prepubertal young people and adolescents
- Diagnosis and management of PID in early puberty
- The incidence of HIV infection acquired by young people through sexual abuse/assault
- The incidence of hepatitis B and C infection acquired by young people through sexual abuse/assault
- The significance of BV in early puberty
- The significance and methods of diagnosing BV in prepubertal young people



For appendices see the STI website  
www.sextransinf.com

### Authors' affiliations

**A Thomas**, Department of Community Paediatrics, St James's University Hospital, Leeds LS9 7TF, UK

**G Forster**, Department of Genitourinary Medicine, Ambrose King Centre, Royal London Hospital, Turner Street, London E1 1BB, UK

**A Robinson**, The Mortimer Market Centre, Off Capper Street, London WC1E 6AU, UK

**K Rogstad**, Department of Genitourinary Medicine, Royal Hallamshire Hospital, Glossop Road, Sheffield S10 2JF, UK

Correspondence to: Amanda Thomas; amanda.thomas@leedsth.nhs.uk

Accepted for publication 7 August 2002

### REFERENCES

- 1 **The Children Act 1989**. HMSO, London.
- 2 **Wellings K**, Nanchahal K, Maccowall W, *et al*. Sexual behaviour in Britain: early heterosexual experience. *Lancet* 2001;**358**:1843–50.
- 3 **Department of Health**. *Working together to safeguard children. A guide to inter-agency working together to safeguard and promote the welfare of children*. London: Stationery Office, 1999.
- 4 **Rogstad KE**, Ahmed-Jushuf IH, Robinson AJ. UK national survey. Standards for comprehensive sexual health services for young people under 25 years. *Int J STD AIDS* 2002;**13**:420–4.
- 5 **Royal College of Physicians of London**. *Physical signs of sexual abuse in children*. 2nd ed. London: RCP (Lond), 1997.
- 6 **Gillick v West Norfolk and Wisbech AHA**[1986]AC 112, [1985] 3 WLR 830, [1985] 3 All ER 402, HL.
- 7 **BMA**, GMSC, HEA. *Confidentiality and people under 16*. Guidance issued jointly by the BMA, GMSC, HEA, Brook Advisory Centres, FPA and RCGP.
- 8 **GMC**, 1991.
- 9 **Department of Health**. *Reference guide to consent for examination or treatment*. London: DoH, 2001.
- 10 **General Medical Council**. *Confidentiality: protecting and providing information*. London: GMC, 2000.
- 11 **British Medical Association**. *Consent, rights and choices in health care for children and young people*. London: BMA, 2000.
- 12 **The NHS Trusts and Primary Care Trusts** (Sexually Transmitted Diseases) Directions 2000 pursuant to Sections 17 and 126(3) of the National Health Service Act 1977[a].
- 13 **European Convention on Human Rights**, 1950.
- 14 **British Medical Association**. *The impact of the human rights act 1998 on medical decision-making*. London: BMA, 2000.
- 15 **Home Office**. *Setting the boundaries. Reforming the law on sex offences*. London: Home Office, 2000.
- 16 **Department of Health**. *Child protection—medical responsibilities—guidance to doctors working with child protection agencies: addendum to working together under the Children Act 1989*. London: HMSO, 1996.
- 17 **Department of Health**. *Safeguarding children involved in prostitution*. Supplementary Guidance to Working Together to Safeguard Children. London: Stationery Office, 2000.
- 18 **Greenberg J**, Magder L, Aral S. Age at first coitus: a marker for risky sexual behaviour in women. *Sex Transm Dis* 1992;**19**:331–4.
- 19 **Duncan ME**, Tibaux G, Pelzer A, *et al*. First coitus before menarche and risk of sexually transmitted disease. *Lancet* 1990;**335**:338–40.
- 20 **Neinstein LS**, Goldenring J, Carpenter S. Non sexual transmission of sexually transmitted diseases: an infrequent occurrence. *Pediatrics* 1984;**74**:67–75.
- 21 **Estreich S**, Forster GE. Sexually transmitted diseases in children: introduction. *Genitourin Med* 1992;**68**:2–8.
- 22 **Garden A.S.**, Nelki J, Stewart F. Growth and psychosexual development. In: Garden AS, ed. *Paediatric and adolescent gynaecology*. London: Arnold, 1998.
- 23 **Campbell AG**, McIntosh N. *Forfar & Aneil's textbook of paediatrics*. 5th ed. Edinburgh: Churchill Livingstone, 1998.
- 24 **Royal College of Pathologists and the Institute of Biomedical Science**. *The retention and storage of pathological records and archives*. Report of the working party of the Royal College of Pathologists and the Institute of Biomedical Science. 2nd ed. London, 1999:16.
- 25 [www.mssvd.org.uk/guidelines](http://www.mssvd.org.uk/guidelines) 2002
- 26 [www.phls.co.uk](http://www.phls.co.uk)
- 27 **Hammerschlag MR**. Chlamydial infections. *J Pediatr* 1989;**114**:727–34.
- 28 **Bell TA**, Stamm WE, Wang SP, *et al*. Chronic Chlamydia trachomatis infections in infants. *JAMA* 1992;**247**:400–2.
- 29 **The British Co-operative Clinical Group**. Provision for sexual health care of adolescents in genitourinary medicine clinics in the United Kingdom. *Genitourin Med* 1997;**73**:453–6.
- 30 **Fuster CD**, Neinstein LS. Vaginal C trachomatis prevalence in sexually abused girls. *Pediatrics* 1987;**79**:235–8.
- 31 **Hammerschlag MR**, Doraiswamy B, Alexander ER, *et al*. Are rectovaginal chlamydia infections a marker of sexual abuse in children? *Pediatr Infect Dis* 1984;**3**:97–9.
- 32 **Siegal RM**, Schubert CJ, *et al*. The prevalence of sexually transmitted diseases in children and adolescents evaluated for sexual abuse in Cincinnati: rationale for limited STD testing in prepubertal girls. *Pediatrics* 1995;**96**:1090–4.
- 33 **Ingram DL**, Everiet D, Lyna P, *et al*. Epidemiology of adult sexually transmitted disease agents in children being evaluated for possible sexual abuse. *Pediatr Infect Dis* 1992;**11**:945–50.
- 34 **Rawstron SA**, Bromberg K, Hammerschlag MR. STD in children: syphilis and gonorrhoea. *Genitourin Med* 1993;**69**:66–75.
- 35 **White ST**, Loda FA, Ingram DL, *et al*. Sexually transmitted diseases in sexually abused children. *Pediatrics* 1982;**72**:16–19.
- 36 **Ingram DL**, Everett VD, Flick LA, *et al*. Vaginal gonococcal cultures in sexual abuse evaluations: evaluation of selective criteria for pre-teenaged girls. *Pediatrics* 1997;**99**:e8. (IV)
- 37 **Connor N**, Catchpole M, *et al*. Sexually transmitted disease among teenagers in England and Wales. *Commun Dis Rev* 1997;**7**:review No12.
- 38 **Gutman LT**, Herman-Giddens ME, Phelps WC. Transmission of human genital papillomavirus disease: comparison of data from adults to children. *Pediatrics* 1993;**91**:31–8.
- 39 **Armstrong DKB**, Handley JM. Anogenital warts in prepubertal children: pathogenesis, HPV typing and management. *Int J STD AIDS* 1997;**8**:78–81.
- 40 **Thompson JL**, Gelbart SM. Trichomonas vaginalis. *Obstet Gynecol* 1989;**74**:536–41.
- 41 **Hammerschlag MR**. Sexually transmitted diseases in children. *Curr Opin Infect Dis* 1992;**5**:29–35.
- 42 **Hammerschlag MR**, Alpert S, Rosner I, *et al*. Microbiology of the vagina in children: normal and potentially pathogenic organisms. *Pediatrics* 1978;**62**:57–62.
- 43 **Robinson AJ**, Watkeys EM, Ridgway GL. Unpublished data.
- 44 **Hammerschlag MR**. Sexually transmitted diseases in sexually abused children: medical and legal implications. *Sex Transm Infect* 1998;**74**:167–74.
- 45 **Cowan FM**, Mindel A. Sexually transmitted diseases in children: adolescents. *Genitourin Med* 1993;**69**:141–7.
- 46 **Gutman LT**, St Claire KK, Weedy C, *et al*. Human immunodeficiency virus transmission by child sexual abuse. *Am J Dis Child* 1991;**145**:137–41.
- 47 **Gellert GA**, Durfee MJ, Berkowitz CD, *et al*. Situational and sociodemographic characteristics of children infected with human immunodeficiency virus from pediatric sexual abuse. *Pediatrics* 1993;**191**:39–42.
- 48 **Department of Health**. *Guidance on children in need and blood-borne viruses: hiv and hepatitis 2001*. Consultation. London: DoH, [www.doh.gov.uk/childrenbbvs](http://www.doh.gov.uk/childrenbbvs)
- 49 **Hammerschlag MR**, Cummings M, Doraiswamy B, *et al*. Non specific vaginitis following sexual abuse in children. *Pediatrics* 1985;**75**:1028–31.