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ASHM Journal Club: Sexual Health

Linda Garton
CNC, RPA Sexual Health
November 2018

Sexual Health

- Australian based journal
- Impact factor: 1.238
- Jul-Nov 2018 (with a couple of articles from Jun 2018)
The development of an online risk calculator for the prediction of future syphilis among high-risk cohort of men who have sex with men and transgender women in Lima, Peru

Allan-Blitz et al (June, Vol 3, 261-268)

**Background:**
- Syphilis incidence rebounded globally since 2000 - MSM/ trans women high risk
- Incidence in Peru estimated to be 8.4 per 100py among this pop (prevalence estimates: 7.4-10.5%)
- Reinfection common- annual incidence rate estimated 35.3 per 100py
- Aim of study - develop predicative model of future incidence

**Methods:**
- 404 individuals enrolled as met high risk criteria – enrolled from 2 centres
- Computer based survey: baseline, every 3/12 over 24 month period + lab testing each visit
- Statistical analysis – GEE with Poisson regression model as syphilis repeatable therefore calculations based on person-visit (not individuals)
- Outcome of interest – incident syphilis in 3 months (individuals had to attend one or more visits after baseline to be included)

**Results:**
- 22% (89/440) participants trans women, 34.6% participants had HIV at baseline
- Median number of follow up visits=6 (interquartile range 3-8), mean age: 29
- 111 new syphilis cases (18 were reinfections), incidence 19.9 per 100py
- Predictive models- model 6 selected as best predictive model (AUC 69%, 95% CI: 61-78%)
- MSM - predicted probability of syphilis in 3/12- 4.1% (70.4% sensitivity, 65.7% specificity), trans women - 4.3% (100% sensitivity, 44.8% specificity)

**Conclusion:**
- Researchers state model showed only moderate predictive accuracy
- High sensitivity in trans women may indicate higher risk factor similarities
- Findings may not be generalisable as study done in MSM and trans women only
- Researchers state further work needed to refine model
- Model can provide groundwork for future studies
Risky business: is pubic hair removal by women associated with body image and sexual health?


Background:
- Pubic hair removal seen as the feminine ideal in media - related to high amounts of media consumption
- Associated with increased sexual activity (oral sex, more partners, hygiene product use and casual sex)
- Linked to body image and the ‘thin-ideal’ – poor body image causing distress when comparing to the ideal of sexual desirability > greater sexual risk taking
- Study examined relationship of hair removal to sexual health indicators, body image and appearance management behaviours

Methods:
- USA study – 264 participants (18-66 years) who met eligibility criteria
- Online questionnaire (through Amazon’s Mechanical Turk) – incentives for completion
- Assessed amount of hair removal and importance (Likert scale)
- Survey used questions from previous surveys (validated)

Results:
- 64% participants reported removing pubic hair (43% removed all)
- Significant relationship between age and importance of reasons for removal (younger)
- Younger age – greater importance to remove all compared to older age (p<0.001)
- Factors that predicted reasons for removal
  - Thin-ideal
  - Self-objectification
  - Condom use (less)
- Those who removed some hair- more athletic internalisation

Conclusions:
- The thin-ideal and appearance investment were significantly predictive for importance of hair removal
- Influenced by media geared towards men (hairlessness, lack of condoms)
- Body image and less safe sex > could lead to increase in STIs
- Less likely to use condoms
- Appearance altering behaviour > concerning both physically and psychologically
Age differences in attitudes towards safer sex practices in heterosexual men using an Australian internet dating service
Cheng et al (June, Vol 3, 223-231)

Background:
• Increasing older population seeking new sexual partners
• STIs increasing among ≥ 50 years globally and in Australia
• 2015 Annual Surveillance Report 1 in 5 new HIV diagnoses heterosexually acquired were ≥ 50 years
• 2011-2016: ~10% increase in CT/NG notifications among females ≥ 50 years
• Study aim to better understand knowledge and attitudes of internet dating users

Methods:
• 2014 cross-sectional survey of male dating site users (anonymous)
• Demographic characteristics, relationship status, knowledge and experiences of STIs, condom use
• Incentive to complete (quiz > prize opportunity)
• Examination of factors associated with protective safer sex with new partner and STI discussion

Results:
• 62% surveys analysed (3781 commenced) – males 18 and over
• 73% over 40 years, 48% 50 years and over (majority lived in cities)
• ¾ reported being single at time of survey, 30% reported ≥4 partners in last year
• Knowledge of STIs decreased significantly with increasing age
• History of STIs increased with age (9.5% 18-29 years to 22.4% ≥ 60 years)
• 78% said condoms reduced pleasure, 53% condom use reduced sexual interest
• 81% ≥ 60 years reported condomless sex in past year

Conclusion:
• Challenges identified in promoting condom use to older men (>60 years)
• Greater STI knowledge - more likely to use condoms
• More partners > greater risk (also vasectomy indicator of higher risk)
• Older population missed sex education/safe sex campaigns
• Development of online platforms for older pop e.g. simplicity of testing, risk minimisation
Use of poppers and HIV risk behaviours among men who have sex with men in Paris, France: an observational study
Rhodes-Hambrick et al (July, Vol 4, 370-373)

Background:
• France 2015: 38% new HIV infections among MSM (3.9% of pop)
• Inhaled nitrates (poppers) seen as alternative to harder drugs (rapid head rush)
• Study aim - association between popper use and sexual health risk, HIV and STI diagnoses

Methods:
• Geosocial survey via smartphone app in 2016 (Paris metro area)
• Survey included questions on demographics, previous 3 months >popper use, alcohol use, CLAI, group sex, HIV status and self-reported diagnoses last 12 months

Results:
• 580 participants
• ~47% reported popper use in last 3 months
• Multivariate – popper use in last 3 months significantly associated with CLAI, alcohol and other drugs during sex, group sex and an STI in last 12 months ($p < 0.05$)

Conclusions:
• MSM should be aware that popper use is associated with risky sexual decision making due to dis-inhibitory and vasodilatory effects

Correlates of in-person and technology-facilitated sexual harassment from an online survey among young Australians
Douglass, C et al (July, Vol 4, 361-365)

Background:
• Technology-facilitated sexual harassment (TFSH) an emerging problem
• Study investigated correlates of sexual harassment among young people

Methods:
• Online survey: 15-29 year olds (nested within larger survey- Sex, Drugs and Rock n Roll)
• Individuals reported on episodes experienced via phone/in-person/social media/dating apps over year period

Results:
• 1,272 participants completed survey (70% female)
• 67% reported harassment in-person, 34% via social media, 26% via phone
• 535 participants had used dating app – 57% reported harassment
• Females, trans, gender diverse, younger age more likely to be harassed

Conclusions:
• Young people identifying as female, trans and gender diverse at greater risk (align with existing literature)
• Technology providers, researchers and policy makers need to respond with innovative strategies
How can university sexual health promotion events reach those most at risk?
Dunn, M et al (July, Vol 4, 304-311)

Background:
• STIs rising among young Australians – youth sexual health a priority
• University students likely to have >1 partner annually (24% ≤19, 54% 20-29 years)
• Uni students > variable level of sex education (25% overseas students)
• Study to examine student previous experiences, preferences and attitudes to sexual health events (focus on students with multiple partners)

Methods:
• Anonymous cross-sectional surveys x2
  – Past experiences, health promotion preferences and motivation factors for attending events (all students)
  – Current health promotion uni events (student leaders only)
• Participants ≥16 years – random stratified sample invite sent to 2,998 students via survey monkey (Mar-Apr 2015)

Results:
• 502 responders included (~17%) – median: 24 years, 85% <30 years
• 23% higher risk - no significant difference between low and high risk groups
• STI testing more common among higher risk group in last year (p<0.001)
• ‘I don’t have the time to test’ more frequent response among higher risk group (p=0.032)
• Higher risk group more likely to attend health promotion events (p<0.001)
• Event preferences: social event & onsite testing preference by high risk group (50%)

Conclusion:
• Higher risk group small sample – already interested in sexual health
• High self perception of sexual health knowledge, low perception of ‘risk’
• Higher risk group more attracted to sexual health events with onsite testing and alcohol incentives
• Outcome – how to effectively target both audience groups (onsite testing)
Changing pattern of STI and HIV diagnosed in public funded sexual health services compared to other locations in NSW, 2010-14

Bourne et al (July, Vol 4, 366-369)

Background:
• Publicly funded sexual health clinics (PFSHC) attract people at higher risk
• HIV & STIs in NSW have increased significantly since 2009
• Study investigated proportional distribution of STI and HIV diagnoses in comparison to other health services

Methods:
• Cross-sectional study design- 2 data sources (NSW NCIMS and ACCESS data)
• Gonorrhea, chlamydia & infectious syphilis diagnosed during single episode of care
• Analysis restricted to 2010-14 to avoid data distortion (2015- PrEP)
• Data stratified by LHD and geographic locality
• Time trends > Wilcoxon rank-sum tests

Results:
• CT ↑ from 12% to 15% (p<0.001)
• NG ↑ from 23% to 38% (p<0.001)
• Syphilis ↑ from 21% to 40% (p<0.001)
• HIV ↑ from 22% to 30% (p<0.001)
• Similar trends in inner and outer metro (except stable for syphilis in outer metro)
• Regional/remote – CT ↓ from 9% to 7% (p<0.001)
• GBM attendance increased > majority of infections were among GBM attending
• CT increasing among GBM whereas decreasing among young people <30 years

Conclusion:
• PFSHC continue to diagnose significant proportion of HIV & STIs among priority populations such as GBM
• Results similar to other jurisdictional studies
• Shifting patients to other services enables improved access for those more at need
Cross-sectional survey of Chinese-speaking and Thai-speaking female sex workers in Sydney, Australia: factors associated with consistent condom use  
Foster et al (Vol 5, p389-395)

Background:
• Priority to maintain low STI prevalence levels among SIW
• Previous studies – inconsistent condom use among Chinese and Thai FSW
• Study aim: to describe demographics and safe sex practices among Chinese & Thai FSW attending SSHC in 2014-15

Methods:
• Study pop – Chinese & Thai FSW who reported sex work within past 12 months
• Self-completed anonymous hard copy questionnaire (adapted from previous surveys)
• Primary outcome - 100% condom use for vaginal sex compared to <100%
• Demographic info included – education/literacy, sex work experience and knowledge of safe practice/STI transmission
• HIV and STI status not asked
• Logistic regression used to identify correlates of 100% condom use
• Statistically controlled for confounders e.g. age

Results:
• 435/488 completed (45% Chinese, 55% Thai)
• 79% had to buy condoms for work, ~10% would consider UPSI
• 44% reported HPO contact, more than ½ didn’t attend for regular STI checks
• Better reported English language skills among Thai workers
• Chinese workers significantly less likely to use 100% condoms for VI/AI/OI
• Reason for condomless VI/OI cited as regular client or client refusal
• 100% condom use significantly associated with being Thai & STI knowledge

Discussion:
• Only 72% Thai & Chinese workers reported consistent condom use – 57% reported consistent use for OI and 74% reported consistent use for VI/AI
• Consistent use associated with working in parlour that provide condoms
• Overall findings of consistent condom use lower than expected
• Improve HP strategies and condom provision at work a necessity
Safe sex in chick lit: a ‘novel’ analysis of sexual health references in popular women’s fiction

Lim et al (Vol 5, p468-472)

Background:
• Media influence female health behaviours
• Studies show high consumption of romance novels < likely to use condoms
• Novels with BDSM theme > reporting higher risk practices
• Referring condom use > readers report greater intention to use
• Study aim- measure prevalence of sexual content with (un)safe sexual health message in ‘chick-lit’ (contemporary post-feminist romance)

Methods:
• Sample size - 50 novels classified as ‘chick-lit’
• 14 reviewers extracted sexual referenced data into framework developed by researchers, 20% of books reviewed by 2 reviewers to assess reliability
• Collected information on – sexual encounter, types of behaviours, condoms/contraception used, outcomes/consequences of encounter
• Descriptive analysis on key features of sexual encounters & thematic analysis to explore portrayal of (un)safe sex scenes

Results:
• 50 books, 30 different authors (published 1994-2011, median:2003)
• 90% contained at least one sex scene (range: 1-27)
• Female characters commonly portrayed as pursuing sex, prioritising pleasure, declining if didn’t fulfil needs
• Condom use described 43% of scenes (almost exclusively for casual encounters)
• Safe sex presented as routine and normalised (little attention to contraception)

Conclusion:
• Protagonists portrayed as liberated
• Many references to safe sex – in contrast to other studies
• Limited portrayal of contraception use, STI testing
• Condoms presented in a negative light could discourage use among readers
• Need to promote positive behaviours e.g. women carrying condoms
• Future studies – how women read and engage with ‘chick-lit’
‘I see it everywhere’: young Australians unintended exposure to sexual content online
Lewis L et al (July, Vol 4, 335-341)

Background:
• Wide variations in reported exposure to online content (assumed intended)
• Adolescent exposure to sexual content (porn) > earlier sexual debut and greater risk taking
• To describe pathways to sexual content exposure and develop interventions to educate and safeguard youth

Methods:
• Participants: 14-18 year olds (Mar 2013- May 2014)
• 68 in total (54% male), 4 schools participated
• Schools selected from culturally and economically diverse areas
• 11 single gender focus groups (6-8 students)
• Qualitative analytical approach (Grounded Theory)
• Authors agreed on shared description and interpretation of responses
‘I see it everywhere’: young Australians unintended exposure to sexual content online

cont.

Results:
• Exposure via social media occurred through friendship networks and paid advertising
• Sign of popularity and acceptance
• Most exposure described was unintended – advertising ‘popups’
• Ranging in content (nude photos to porn videos)
• Advertising leads to other sites
• Many described feeling uncomfortable/irritated (most exposure through ‘torrent’ sites)
• Little control over exposure via friends’ newsfeeds
• Range of exposure – suggestive to explicit
• Individuals felt they had to manage the situation to avoid engagement and questions (e.g. parents)
• Gender differences – girls less likely to see full nudity
• Some sites known to have more sexual demand (snapchat)

Significance of social media (importance placed):
‘...the goal would be to get 1000 followers...So you are able to get more likes...’ (girl – Grade 11)

‘...the average is 1000 likes on a photo on Facebook...its like virtual popularity...’ (girl – Grade 9)

‘I look at my phone and check Facebook even before I get out of bed in the morning’ (boy - Grade 9)
‘I see it everywhere’: young Australians unintended exposure to sexual content online cont.

Pathways to sexual content exposure (mostly described as inadvertent, awkward and uncomfortable):

‘(Sexual) images, videos, dating sites and when you ever download music and you go onto the websites and they are down the sides.’ (girl – Grade 10)

“It’s really uncomfortable and you feel you are trying to download music or something...and its [sexual content] just on the side.’ (girl – Grade 9)

‘On Facebook you have no control of what you are seeing.’ (boy – Grade 9)

User-generated (seen directly on social media page- many felt uncomfortable):

‘... (if you see sexual content on social media) You scroll past an look at other stuff. You don’t think about it.’ (boy – Grade 9)

I have to keep a locked door now because if my mum walks in and I’m just scrolling its all just there.’ (girl – Grade 9)

Option to delete:
‘Na. I know I should but again I just can’t be bothered.’ (boy – Grade 10)
‘I see it everywhere’: young Australians unintended exposure to sexual content online
cont.

Gender differences in explicitness of content (girls less likely to see full nudity):
‘… I have never seen it [full nudity] on an Instagram: I’ve seen [girls] ridiculously push up their boobs.’ (girl – Grade 11)

‘…there was a page [on Facebook] for my school, specifically for naked girls…’ (boy – Grade 9)

Sharing content (more likely among boys)

‘I see it everywhere’: young Australians unintended exposure to sexual content online
cont.

Demand for content – social media sites e.g. Snapchat described as ‘made for nudes’
‘… and say maybe on Snapchat…people, random people that you are not sure of will ask you for sexual photos.’ (girl – Grade 8)

Often seeking out content used to judge others:
‘Everyone was talking about it [#aftersexselfie] so I wanted to take a look. I know its bad but it was kinda funny, stupid but funny. I mean who would do that?’ (girl – Grade 11)
‘I see it everywhere’: young Australians unintended exposure to sexual content online

Conclusion:

• First study to describe unintended sexual content pathways via social media among those aged <18 years
• Key finding – most content encountered was unintended
• Young people aim for large group of friends/followers > greater chance of exposure
• Occurred through paid advertising through app/website being used or user-generated content through social media
• Advertising regulated on social media sites e.g. Facebook, Instagram – less control for user-generated content or algorithms
• Self-management: scrolling past, ignoring and managing environment so no-one else would see
• Unlikely to report even though report link on FB near content and reporter is anonymous
• More effective to educate young people to mitigate rather than prevent > more realistic and engaged education
Digital Anal Rectal Examination

Richard Hillman

November 21st 2018

Conflicts of Interest

Funding/in kind support from:
Merck
CSL
Antiva
Hologic
Douglass Hanly Moir
Gilead
Viiv
Key messages

• HPV is the most important STI
• You can save a life with your index finger

Structure

• Why DARE & HPV are important
• Anatomy of the anorectal region
• Epidemiology of anal cancer
• DARE as a component of tertiary prevention
• How to perform DARE
• Practical experiences
Why DARE is important
If anal cancer ≤ 1cm diameter:

≈100% survival
simple excision may be adequate

If anal cancer >1cm diameter,

5 year survival < 50%
+ chemotherapy
+ radiotherapy
+/- abdominoperineal resection
+/- salvage therapies
Why DARE is important

If anal cancer ≤ 1cm diameter:

- ≈100% survival
- simple excision may be adequate

If anal cancer >1cm diameter,

- 5 year survival < 50%
- + chemotherapy
- + radiotherapy
- +/- abdominoperineal resection
- +/- salvage therapies

Why HPV is important

1. Commonest STI
2. Causes > 300,000 deaths globally each year
3. Causes > 1400 deaths/year in Australia (>> HIV)
5% of all global cancers attributable to HPV

- Cervix - 100%
- Vagina - 65%
- Vulva - 50%
- Anus - 95%
- Penis - 35%
- Oropharynx - 70% (tonsils + base of tongue)

HPV associated cancers (Aus/US) - 2015

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Incidence (deaths)</th>
<th>Rates/100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>898 (217)</td>
<td>7.4</td>
</tr>
<tr>
<td>Anal cancer</td>
<td>160 (54)</td>
<td>225 (98)</td>
</tr>
<tr>
<td>Penile</td>
<td></td>
<td>0.8*</td>
</tr>
<tr>
<td>Head &amp; neck - inc lip</td>
<td>3,342§ (776)</td>
<td>1,195§ (270)</td>
</tr>
<tr>
<td>Vulvar*</td>
<td></td>
<td>1.8*</td>
</tr>
<tr>
<td>Vaginal*</td>
<td></td>
<td>1.4*</td>
</tr>
</tbody>
</table>

≈ 1400 HPV-related deaths/yr
≈ 150 anal cancer-related deaths/yr

*US data 2004-8 [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6115a2.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6115a2.htm)
†Oropharyngeal SCC (US) - approx 1/3rd HPV-related

Anatomy of the anorectal region

Anatomy of rectum and anus

Rectum
(columnar epithelium)

Anal canal
(stratified squamous epithelium)

Ryan DP et al. Carcinoma of the anal canal. NEJM 2000;342(11):792-800
Anatomy of anal canal v. cervix

Normal cervix

Stratified squamous epithelium

Columnar epithelium
Anatomy of anal canal v. cervix

- Normal cervix
- Normal anal canal
- Stratified squamous epithelium
- Columnar epithelium

Anal transformation zone

- current SCJ
- original SCJ
- transformation zone
Viral processes in HPV infection

Sites of physical vulnerability

Only basal cells are permissive of infection

Update on Epidemiology
Risk factors for anal cancer

- **F>M**
- **Age**
- **Behaviour**
- **Immunity**
- **Genetics**

Persisting high risk HPV infection

Anal cancer demographic stratifiers

<table>
<thead>
<tr>
<th>Key population</th>
<th>Incidence rates (IR) per 100 000</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>General female population</td>
<td>0.5 - 2.4</td>
<td>Stier 2015</td>
</tr>
<tr>
<td>Women with Cx/vag/vulvar IN3+</td>
<td>13.6 0.8 to 63.8</td>
<td>Saleem 2011, Stier 2015</td>
</tr>
<tr>
<td>Women with HIV</td>
<td>3.9-30</td>
<td>Steir 2015</td>
</tr>
<tr>
<td>Transplant recipients</td>
<td>15</td>
<td>Grulich 2007</td>
</tr>
<tr>
<td>HIV negative MSM</td>
<td>37</td>
<td>Palefsky 2009</td>
</tr>
<tr>
<td>HIV positive MSM</td>
<td>131</td>
<td>Silverberg 2012</td>
</tr>
</tbody>
</table>


Anal SCC male

Anal SCC female

↑rates for more recent birth cohorts

e.g. those born in 1960 have a higher rate of anal cancer at a given age compared to those born in 1950
AIDS and non-AIDS defining cancers, by time
Median age at presentation = 47 yrs in HIV+ (v 57 in gen pop)

Shiels MS et al Clin Infect Dis 2017;64(4):468–75

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Cases</th>
<th>Median Age, y</th>
<th>Median Age, y</th>
<th>General Population After Weighting*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>644</td>
<td>54</td>
<td>68</td>
<td>58</td>
</tr>
<tr>
<td>Prostate</td>
<td>604</td>
<td>58</td>
<td>66</td>
<td>59</td>
</tr>
<tr>
<td>Anus</td>
<td>291</td>
<td>47</td>
<td>57</td>
<td>51</td>
</tr>
<tr>
<td>Liver</td>
<td>226</td>
<td>54</td>
<td>62</td>
<td>54</td>
</tr>
<tr>
<td>Oral cavity and pharynx</td>
<td>173</td>
<td>51</td>
<td>60</td>
<td>53</td>
</tr>
<tr>
<td>Head and neck lymphoma</td>
<td>171</td>
<td>44</td>
<td>39</td>
<td>45</td>
</tr>
<tr>
<td>Colon</td>
<td>111</td>
<td>55</td>
<td>67</td>
<td>56</td>
</tr>
<tr>
<td>Kidney</td>
<td>109</td>
<td>52</td>
<td>62</td>
<td>54</td>
</tr>
<tr>
<td>Larynx</td>
<td>88</td>
<td>53</td>
<td>63</td>
<td>56</td>
</tr>
<tr>
<td>Melanoma (whites only)</td>
<td>77</td>
<td>49</td>
<td>56</td>
<td>51</td>
</tr>
<tr>
<td>Breast</td>
<td>56</td>
<td>42</td>
<td>59</td>
<td>47</td>
</tr>
<tr>
<td>Pancreas</td>
<td>55</td>
<td>52.5</td>
<td>67</td>
<td>57</td>
</tr>
<tr>
<td>Myeloma</td>
<td>49</td>
<td>52</td>
<td>66</td>
<td>56</td>
</tr>
</tbody>
</table>

North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD) (n = 88,018 PLWH)

Prevention of anal cancer
Pathogenesis of HPV infection

Natural history of anal cancer

.....based on our understanding of the cervix
Preventing HPV-related diseases

Adapted from: WHO Guide to introduction of HPV vaccine into national immunization programmes
http://www.who.int/immunization/documents/en/
Preventing HPV-related diseases

- **Primary prevention**
  - ≤13 years: Vaccination
  - > 35 years: Detection + Rx of pre-cancer

- **Secondary prevention**
  - ≤13 years: Vaccination
  - > 35 years: Detection + Rx of pre-cancer

- **Tertiary prevention**
  - > 50 years: Early detection + Rx of cancer
High Resolution Anoscopy (HRA)

- ≈ colposcopy
- most accurate way of identifying HSIL
- learning curve (≥ 5 years)
  → underestimation ++

Preventing HPV-related diseases

<table>
<thead>
<tr>
<th>≤13 years</th>
<th>35 years</th>
<th>&gt; 50 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary prevention</td>
<td>Secondary prevention</td>
<td>Tertiary prevention</td>
</tr>
<tr>
<td>Vaccination</td>
<td>Detection + Rx of pre-cancer</td>
<td>Early detection + Rx of cancer</td>
</tr>
</tbody>
</table>
Preventing HPV-related diseases

- **Primary prevention**
  - ≤13 years: Vaccination

- **Secondary prevention**
  - 35 years: Detection + Rx of pre-cancer

- **Tertiary prevention**
  - > 50 years: Early detection + Rx of cancer

**DARE**

- Increasingly recommended by authorities (including US, UK, Australia)
- Limited evidence (Ong, Nyitray)
- Difficult to subject to rigorous assessment
  ⇒ established “expert opinion” standards
Purpose of a DARE

To detect an anal cancer as early as possible:
- before it becomes symptomatic and
- as part of an assessment of anal symptoms

It involves:
- systematic palpation of the anal canal and perianus for abnormalities that require further evaluation
How to perform a DARE

- Patient preparation
- Perianal examination
- Anal canal examination
- Documentation
Preparing for a DARE

• 1° objective = to identify palpable abnormalities that require further evaluation (esp anal and distal rectal Ca)
• Should be offered to those with anal Sx + those at ↑ risk
• Risk assessment = Sx, anal Hx + relevant behaviours
• Informed consent should always be obtained
• Test for STIs, anal cytology, HPV DNA etc prior to DARE

Table 1. Groups who may potentially benefit from DARE

<table>
<thead>
<tr>
<th>Group</th>
<th>Minimum* DARE frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Those with symptoms suggesting anal cancer such as: bleeding, anal/perianal mass, tenesmus, pain, altered bowel habit</td>
<td>Immediately, with referral for anoscopy, HRA, or to a colorectal specialist if the initial DARE is negative</td>
</tr>
<tr>
<td>HIV positive men who have sex with men</td>
<td>Annually</td>
</tr>
<tr>
<td>Those with demonstrated, current, histologic anal HSIL</td>
<td>At least annually</td>
</tr>
<tr>
<td>Those with a history of treated anal squamous cell carcinoma</td>
<td>Every 4 months following completion of radiation for first 2 years, then every 6 months for the next 3 years, then at least annually</td>
</tr>
<tr>
<td>Other immunosuppressed populations, such as other groups with HIV infection and recipients of solid organ transplants</td>
<td>Annually</td>
</tr>
<tr>
<td>HIV negative men who have sex with men</td>
<td>Every two to five years,</td>
</tr>
<tr>
<td>Women with a history of cervical, vulvar or vaginal neoplasia or cancer</td>
<td>Every two to five years, depending on further risk assessment</td>
</tr>
</tbody>
</table>
Left lateral position

Avoid use of “o’clock” positions, as it is dependent upon the position of the patient

How to perform a DARE

- Patient preparation
- Perianal examination
- Anal canal examination
- Documentation
Perianal examination
Perianal conditions

Perianal high grade squamous intraepithelial lesion (HSIL) - PAIN 2/3

Bowenoid papulosis (HSIL – PAIN 3)

Perianal cancers, arising in a background of warts
How to perform a DARE

- Patient preparation
- Perianal examination
- Anal canal examination
- Documentation

**Summary Box 2 – Performing a DARE**

- A gloved, lubricated finger should gently be applied to the anal verge.
- Once the external anal sphincter is relaxed, insert the index finger until the free space of the rectum is felt, that is, above the anorectal ring.
- Start proximally, in the rectum. Apply gentle lateral pressure and slowly withdraw the finger to the superficial external sphincter, working distally (caudally). Do not withdraw the finger completely.
- Rotate the finger 90°, then repeat the action until all four quadrants have been examined. The prostate may be examined in men, and the pouch of Douglas in women.
- Alternatively, sweep the examining finger circumferentially around the anal canal, applying gentle pressure to the lateral walls.
- Inspect and palpate the perianum (5cm from the anal margin) for any abnormalities.
- Describe any irregularities in terms of location of the lesion (proximal, mid canal or distal canal), position (anterior/posterior/left/right), type of lesion, size, contour, tenderness and whether this any blood on the finger.
- Refer for expert opinion if examination is sub-optimal, unexplained abnormalities are found, or symptoms persist.
1. A gloved, lubricated finger is gently applied to the anal verge, until the external sphincter relaxes.
2. The index finger is gently inserted into the anal canal, applying lateral pressure to the left lateral wall (if patient is in the left lateral position). Notice any differences in texture of the wall.

3. Insert the index finger until the free space of the rectum is felt, that is, above the anorectal ring.
4. Starting proximally in the rectum. Apply gentle lateral pressure and slowly withdraw the finger to near the anal verge, working distally (caudally).

5. Withdraw the finger to the verge, working distally (caudally). Do not withdraw the finger completely.
6. With the finger still just inside the verge, rotate the finger 90°

7. Repeat the action until all four quadrants have been examined
8. The prostate may be examined in men, and the pouch of Douglas in women.
How to perform a DARE

- Patient preparation
- Perianal examination
- Anal canal examination
- Documentation

Normal findings

Entire anal canal palpated
Anal canal smooth in texture, with no palpable abnormalities
If present, the prostate smooth in texture and regular in outline, with a palpable median sulcus.
Entire perianus visualised to 5cm distal to the anal verge with no visible or palpable abnormalities*

DARE Descriptors - 1

<table>
<thead>
<tr>
<th>Adequacy of examination</th>
<th>Adequate or inadequate for a given reason, such as patient unable to tolerate the procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal findings</td>
<td>Entire anal canal palpated</td>
</tr>
<tr>
<td></td>
<td>Anal canal smooth in texture, with no palpable abnormalities</td>
</tr>
<tr>
<td></td>
<td>If present, the prostate smooth in texture and regular in outline, with a palpable median sulcus.</td>
</tr>
<tr>
<td></td>
<td>Entire perianus visualised to 5cm distal to the anal verge with no visible or palpable abnormalities*</td>
</tr>
</tbody>
</table>

*Where DARE is conducted as part of a high resolution anoscopy, findings after application of 5% acetic acid and examination with colposcope
## Abnormal anal canal DARE findings

### Location of the lesion - one or more of the following:
- Proximal, mid canal or distal canal
- Protruding
- Extends to perianus
- Anterior/posterior/left/right position
- Proximal to distal

### Type of lesion
- Mass
- Linear lesion, such as a fistula tract
- Focal area of thickening or granularity

### Size of the lesion
- Ability to feel proximal limit
- Length
- Width
- Percentage of circumference involved

### Contour
- Smooth/irregular/ulcerated/papillary/fleshy
- Soft/hard/compressible
- Superficial/submucosal
- Fixed/mobile

### Blood on examining finger

### Tenderness

---

## Abnormal perianal DARE findings†

### Location of the lesion:
- Protruding from anal margin
- Entirely perianal (visualized with gentle retraction/anoscope not needed)
- Location of the lesion by anterior/posterior/left/right position

### Size of the lesion
- Anterior/posterior dimensions
- Proximal/distal dimensions
- Proportion of perianus affected

### Appearance
- Smooth/irregular/papillary
- Erythema/scaling/pigmentation
- Well defined edge/diffuse
- Ulceration
- Satellite lesions
- Friability
- Visible bleeding

### Tenderness
- Presence of palpable inguinal lymphadenopathy

†photography may be helpful, with patient consent
Conduct a consultation before the DARE, including an adequate explanation to patient of what to expect, as well as covering initial queries

- Elicit pertinent medical history to determine potential risk of anal cancer
- Adhere to local infection control procedures
- Obtain either verbal or written informed consent, depending on local policies

Table 3: Practical clinician competencies for performing a DARE – Part 1

- Perform a digital anorectal examination
- Identify, anatomically locate and describe any abnormalities
- Develop a clinical impression and differential diagnosis
- Communicate the DARE findings and the pathway for future care to patient and other care providers
- Refer onwards appropriately
- Recommend if, or when, DARE should be repeated

Table 3: Practical clinician competencies for performing a DARE – Part 2
Informed consent has been obtained as per local protocols
- A lubricated, gloved, finger is used
- The entire circumference and length of the anal canal has been palpated
- The entire circumference of the perianus to 5cm has been inspected and palpated
- Adequate documentation of the whole examination has occurred

*Note: Palpation for inguinal lymphadenopathy may be included for patients with cancer.*

**Table 4: DARE Adequacy Criteria**

**Table 5: Volume of Practice Criteria**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Minimum cases</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAREs performed per year</td>
<td>50</td>
<td>≥100</td>
</tr>
<tr>
<td>Anal cancers diagnosed per year</td>
<td>1</td>
<td>≥5</td>
</tr>
</tbody>
</table>

*Note: * It is understood that some practice settings may not have populations with high rates of anal cancer and therefore may have a lower volume of examinations.
Table 6: DARE quality assurance metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire anal canal palpated and perianus fully visualized</td>
<td>&gt;90% of examinations</td>
</tr>
<tr>
<td>Detection of abnormalities requiring further examination(^1)</td>
<td>≥5% of examinations</td>
</tr>
</tbody>
</table>

Notes:
\(^1\)Will depend on mix of patients, such as referral practices, new or return, high risk and treatment experience

Summary

1. You **might** miss an anal cancer if you do a DARE
2. You **will** always miss an anal cancer if you fail to do a DARE
Key messages

- HPV is the most important STI
- You can save a life with your index finger

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- IANS board + Jason Ong
- IANS membership
Thank you

Richard Hillman

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St Vincent’s Hospital, Sydney