

# PREVENTION AND TREATMENT OF GENITAL WARTS

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# Plan

I- HPV INTRODUCTION

II- CONDYLOMA-ACUMINUTUM

1-Clinic

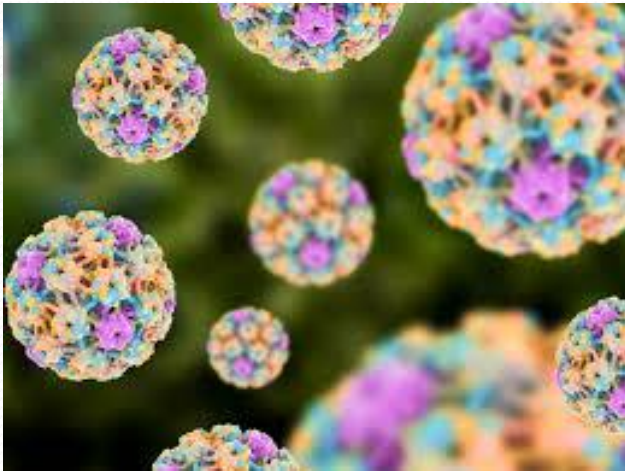
2-Guid-line for genital warts

3-Diffirents treatments

III- Prevention

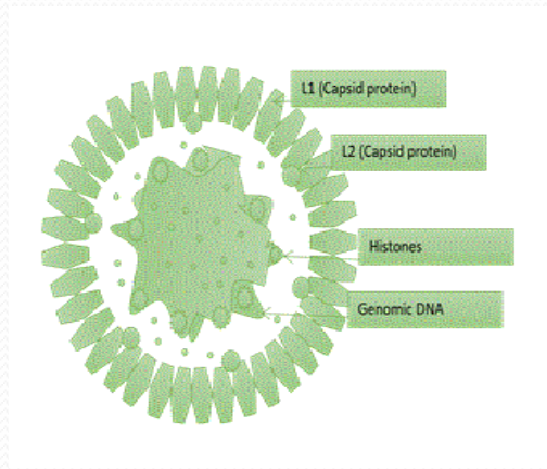
IV- Conclusion

# I. HUMEN PAPILOMA VIRUS

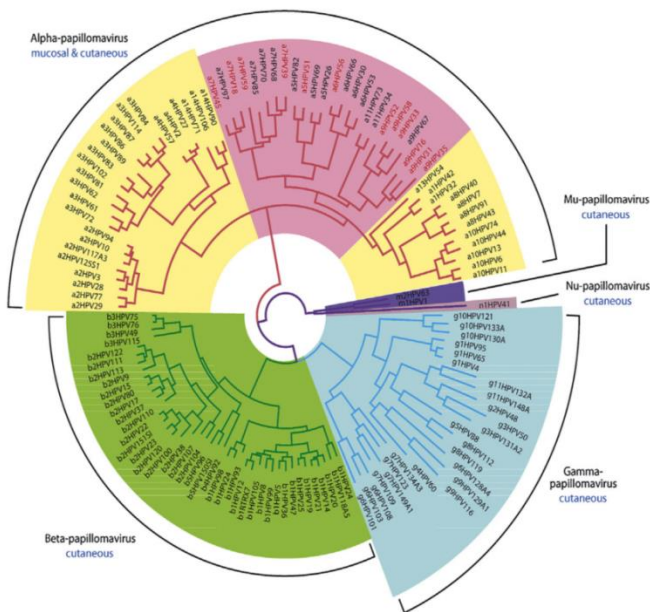


OMS 2012 :

- 266,000 deaths,
- 5228,000 new cases.
- 99% of the cervical cancer cases
- Other anogenital cancer.
- Head and neck cancers.
- Men and Women genital warts.



- It exist since 360 million years ago.
- It belongs to the toxonomic group of the Papilomaviridae.
- >200 HPV have been identified.
- It is mostly cause of STD.

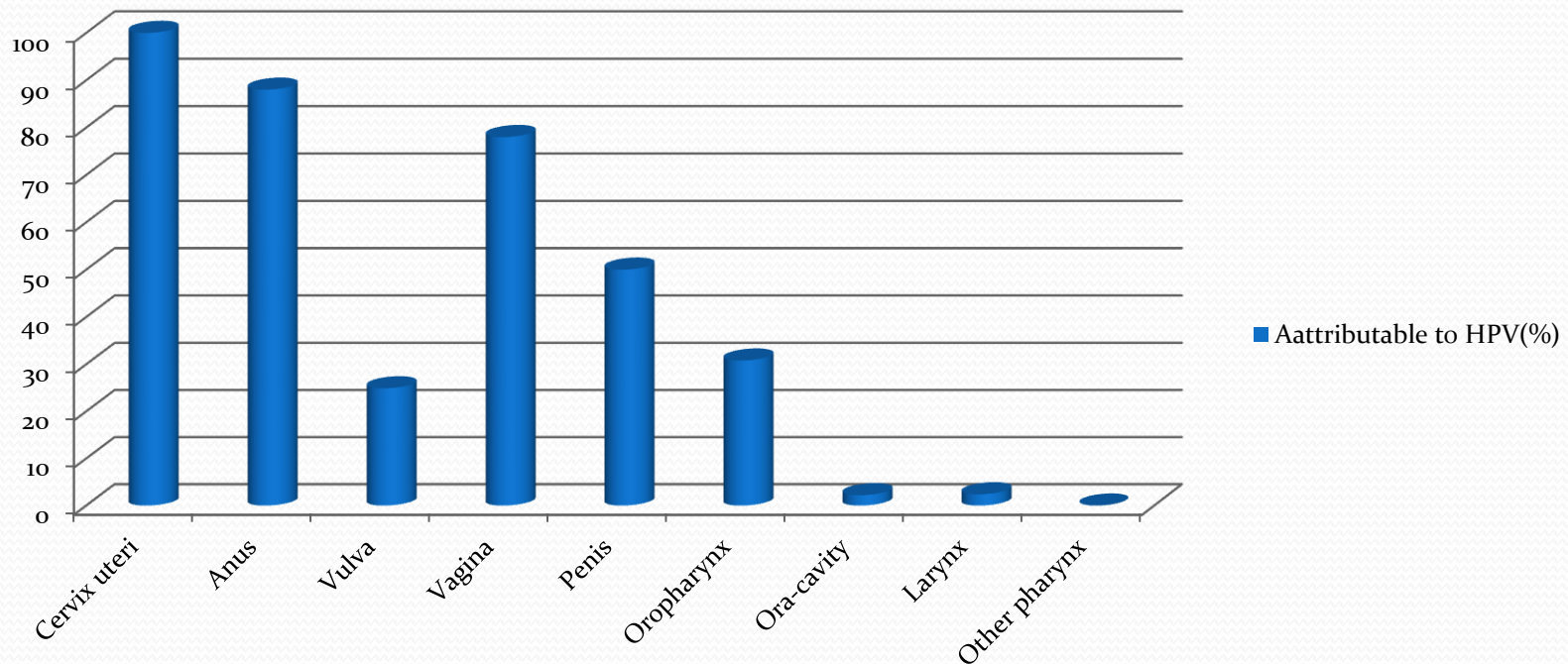


Phylogenetic and Epidemiologic Classification of HPV types	
High risk	Low risk
16,18,31,33,35,39,45,51,52,56,58,59,68,82,26,53,66	6,11,40,42,43,44,54,61,72,81,CP6108
<p>Munoz, N., et al. (2003).  <i>Epidemiologic classification of human papillomavirus types associated with cervical cancer.</i>  <i>N Engl J Med</i> 348(6): 518-527.</p>	

Doorbar, J., et al. (2012).  
 The biology and life-cycle of human papillomaviruses. *Vaccine* 30 Suppl 5: F55-70.

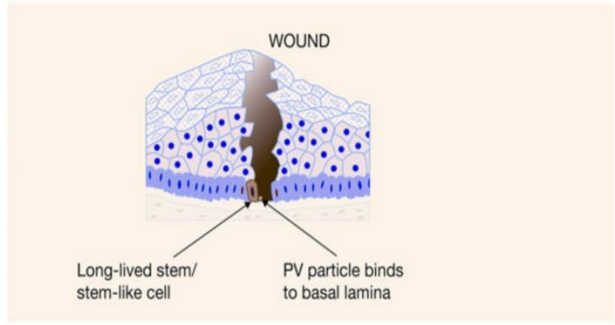
# HPV-Related cancer site

Aattributable to HPV(%)

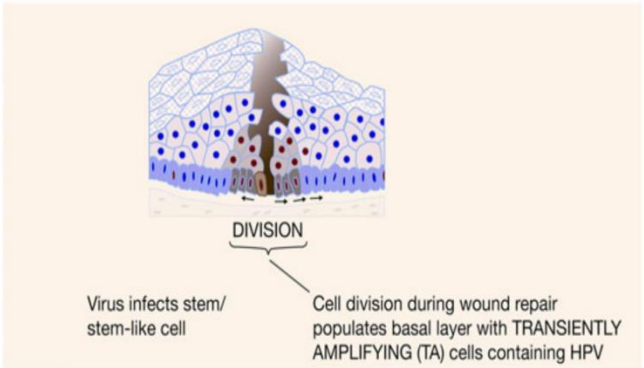


*de Martel, C., et al. (2017)  
Worldwide burden of cancer attributable to HPV by site, country and HPV type  
Int J Cancer 141(4): 664-670*

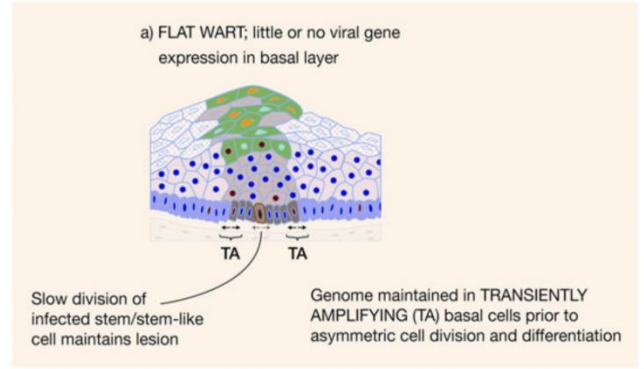
### 1. INFECTION



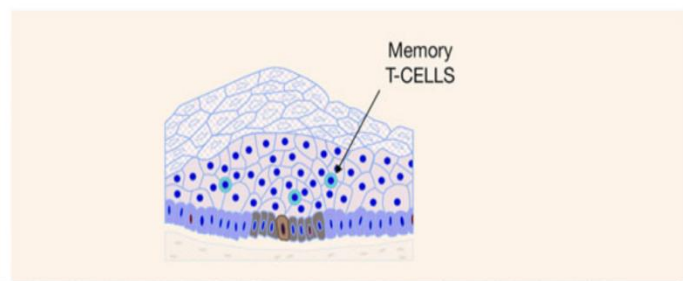
### 2. LESION FORMATION



### 3. ESTABLISHED LESION

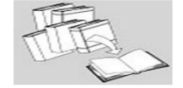


### 4. IMMUNE REGRESSION AND LATENCY



Reviews in Medical Virology

REVIEW



## Human papillomavirus molecular biology and disease association

John Doorbar\*, Nagayasu Egawa, Heather Griffin, Christian Kranjec and Isao Murakami

Department of Pathology, University of Cambridge, Cambridge, UK

Rev. Med. Virol. 2016; 25: 2–23.  
Published online in Wiley Online Library  
(wileyonlinelibrary.com)  
DOI: 10.1002/rmv.1822

## II. What is Condyloma acuminatum?

- It is an external genital warts ( Condyloma Acumatum) .
- 90% of the case cause by HPV type 6 and 11.
- Genital warts represent the most comment sexually-transmitted disease (STD) and are highly contagions.
- Frequently, co-infecttions with high-risk HPV.



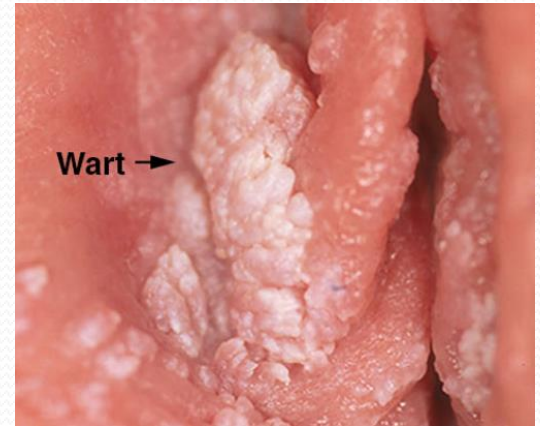
# BMJ Open Prevalence and distribution of HPV types in genital warts in Xi'an, China: a prospective study

Cansheng Zhu,<sup>1</sup> Yaofei Wang,<sup>2</sup> Weihua Mao,<sup>1</sup> Hongshan Zhang,<sup>3</sup> Jiaju Ma<sup>3</sup>

- At SPISSC in Sep 2014-2017 ( 879n genital warts):
- Low risk in both sex
  - HPV 6,11,42,43,81
- High risk in both sex:
  - HPV 52,16,58,68,51,56,53,18,66,59,39,33,31,73,35,85,45,82.

N =879	Low-Risk	High-Risk
Men (512n)	52.3%	32.4%
Women ( 268n)	35.7%	37.3%

# CLINIC



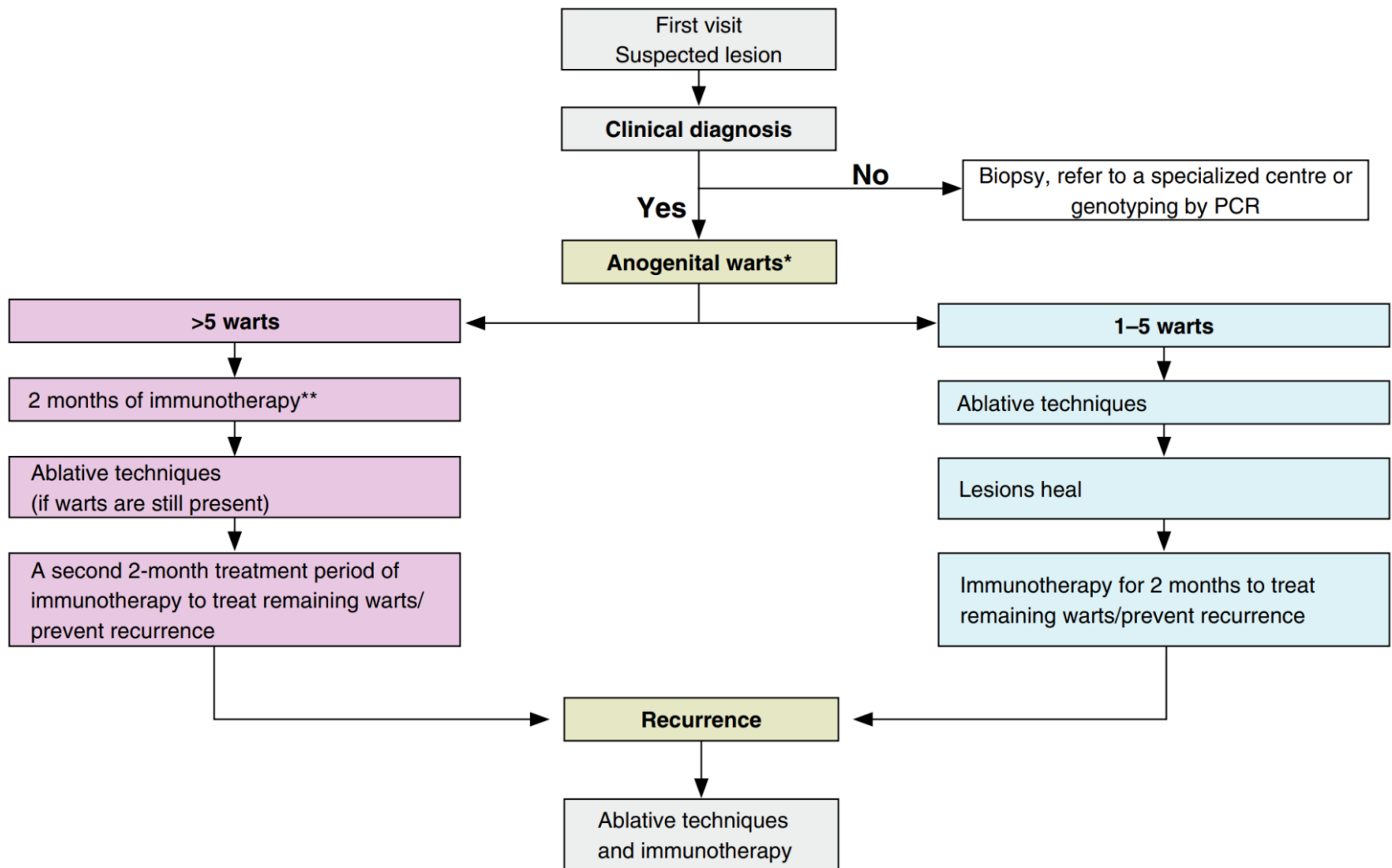
# Giant condylomata; Buschke-Löwenstein tumour



*Feizollah Niazy et al.*  
*www.wjps.ir /Vol.4/No.2/July 2015*



**Prof .Seng Phirak**



***O'Mahony, C., et al. (2019).  
Position statement for the diagnosis and management of anogenital warts.  
J Eur Acad Dermatol Venereol 33(6): 1006-1019.***

## TROPICAL treatment for genital warts

Treatment type	Mechanism of action	Pregnancy safety	Clearance %	Recurrence %	Comments
<b>Podophyllotoxin</b>	Anti-Wart lignans	Unknown	45-77	38-65	Cost-effective home treatment
<b>Imiquimod 5%</b>	Cytokines (reduce HPV DNA viral load)	Unknown	56	13	Lengthy duration with more intuitive dosing regimen
<b>Imiquimod 3.75%</b>	Cytokines (reduce HPV DNA viral load)	Unknown	28-33	15	New formulation with more elicit positive response
<b>Sinecatechins 10% and 15% ointment</b>	Possess antitumor antiviral, antioxidant effects	Unknown	58	6-9	Can often take 16 weeks to elicit positive response
<b>Podophyllin</b>	Anti-wart lignans	No	45-50	46-60	Not generally recommended for EGW treatment
<b>5-FU</b>	Inhibits key enzyme in DNA replication	No	10-50	50	Sometimes used for urethral warts

*Yanofsky, V. R., et al. (2012). Genital warts: a comprehensive review. J Clin Aesthet Dermatol 5(6): 25-36.*

## DESTRUCTIVE AND SURGICAL

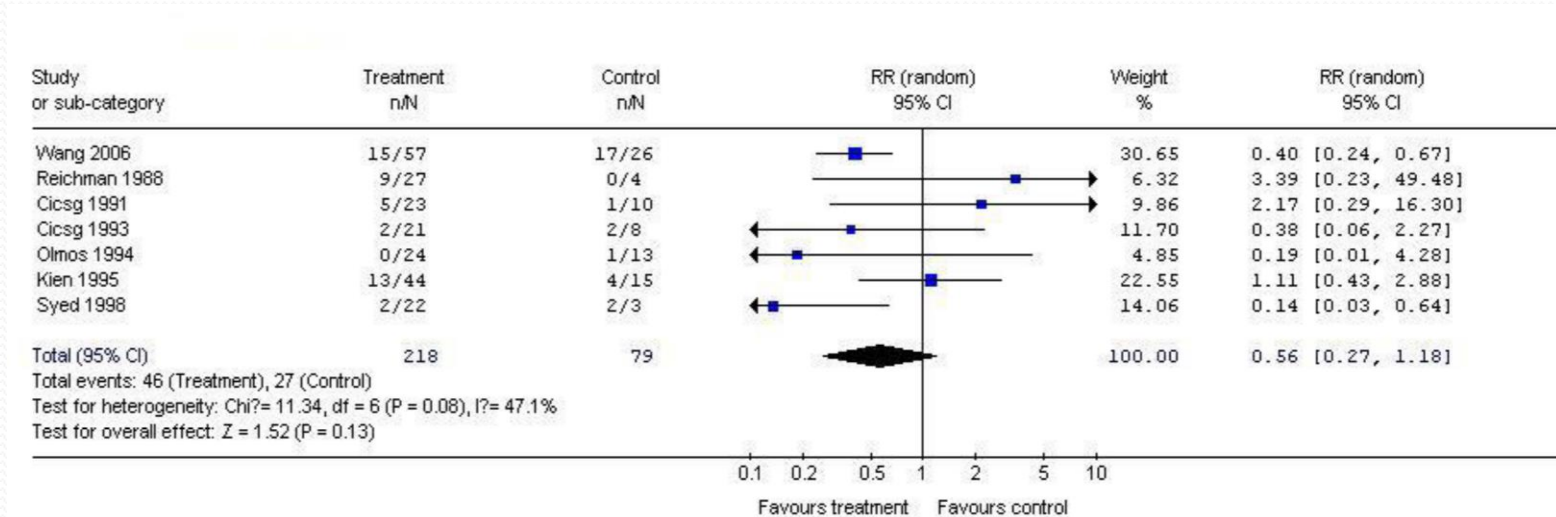
Treatment type	Mechanism of action	Pregnancy safety	Clearance %	Recurrence %	Comments
TCA	Chemically destructive acids	Yes	70	18	High clearance rates with relatively low morbidity
CRYOTHERAPY	Dermal damage induced by cold temps response	Yes	79-88	20-40	Treated areas can take several weeks to heal, requires multiple treatments
ELECTROSURGERY	Thermal coagulation	yes	94	22	Long-term effectiveness comparable to cryotherapy
SCISSOR EXCISION	Physical removal of diseased tissue	yes	72	19-24%	Outdated treatment modality utilized with large lesions causing obstruction
CO <sub>2</sub> LASER	Infrared light energy vaporized lesions	yes	23-52	60-70	Treatment of choice in immunocompromised

## SYSTEMIC

Interferon	Interferes with viral replication	No	17-67%	9-69	Topical used has higher clearance rates vs placebo, systemic use has comparable clearance rates vs placebo
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Yanofsky, V. R., et al. (2012). Genital warts: a comprehensive review. *J Clin Aesthet Dermatol* 5(6): 25-36.

# The recurrence rate of the interferon versus placebo for Treating GW



Yang, J., et al. (2009). Interferon for the treatment of genital warts: a systematic review. *BMC Infect Dis* 9: 156.

# Which is the best Method for Buschke-Löwenstein tumour ?



- wide local excision with radiofrequency waves surgery ?
- A radical local excision with reconstruction of skin defects?
- CO<sub>2</sub> Laser?
- Radiation therapy?



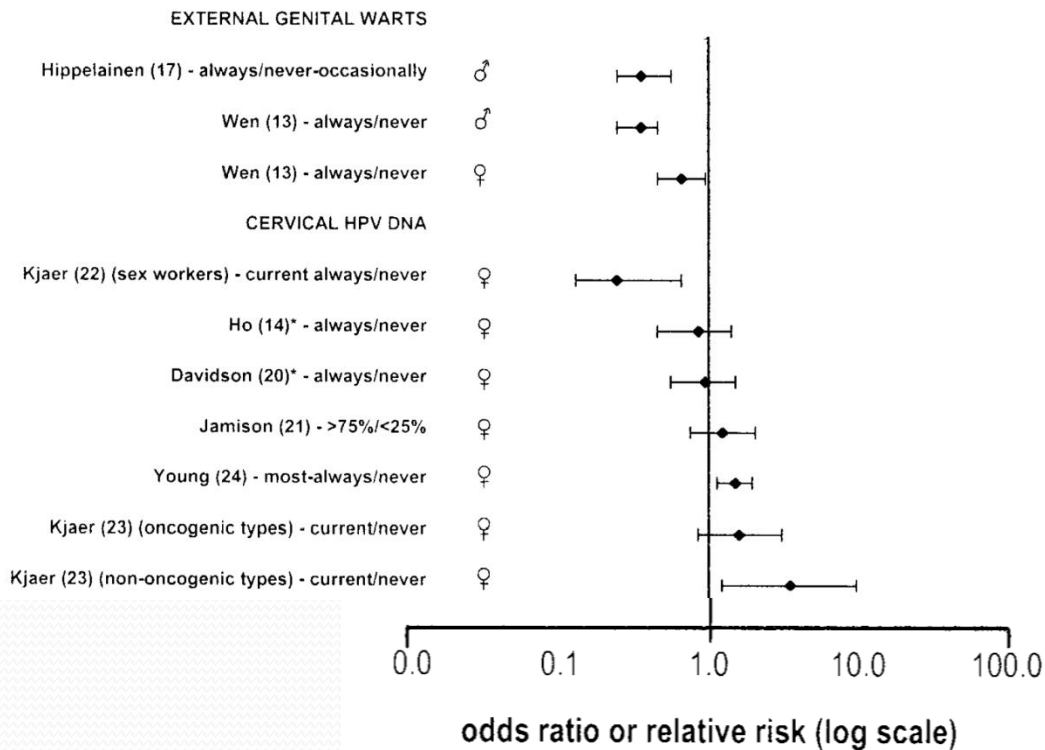
# III. CONDYLOMA PREVENTION

# CONDOM -HPV



## MANHART AND KOUTSKY

Sexually Transmitted Diseases • November 2002



*Manhart, L. E. and L. A. Koutsky (2002)*

*Do condoms prevent genital HPV infection, external genital warts, or cervical neoplasia? A meta-analysis.*

*Sex Transm Dis 29(11): 725-735.*

# HPV- VACCINATION

- HPV is one of the most important carcinogenic factors and genital warts.
- The development of try vaccines is able to prevent persistent HPV infection.
- HPV vaccines:
  - Bivalent (Cervarix)
  - Quadrivalent (Gardasil)
  - Nonavalent (Gardasil 9)

# Prevalent of Anogenital Warts & HPV Vaccination

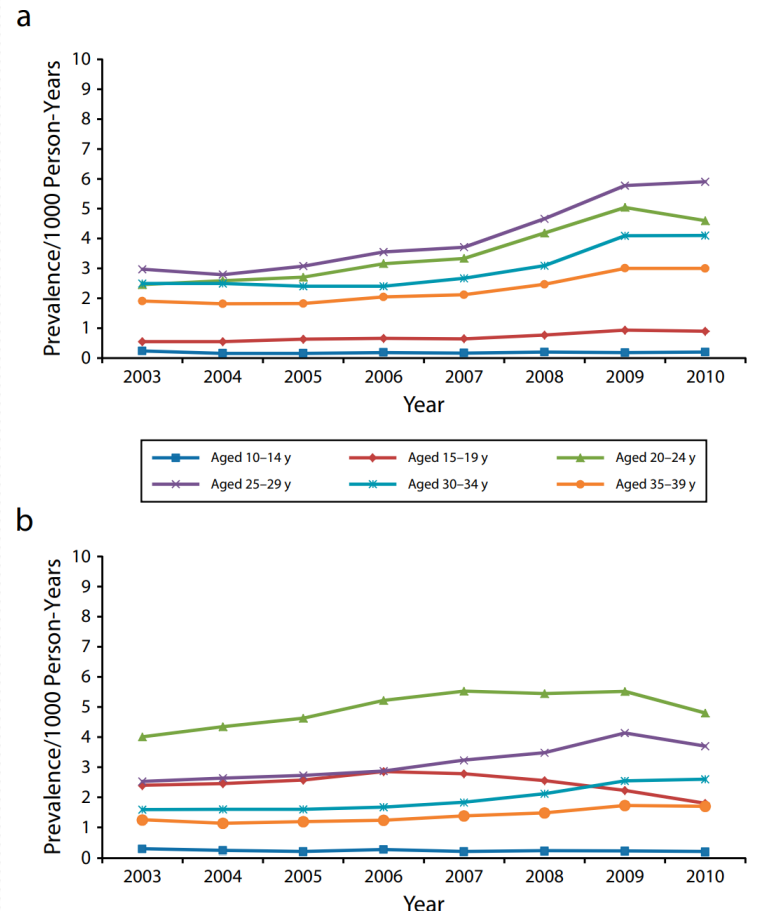
- Objective : estimated AGW from 2003-2010 by gender and age.
- Result:

Women :

-15ys-19ys: (prevalence increase slightly in 2003-2006, then significantly in 2007-2010)

Men :

-15ys-39ys : prevalence increased in 2003-2009 but no increases were observed for 2010



lagg, E. W., et al. (2013).

Prevalence of anogenital warts among participants in private health plans in the United States, 2003-2010 : potential impact of human papillomavirus vaccination.

*Am J Public Health* 103(8): 1428-1435.

# OMS HPV Recommendation

- ***Females <15 years:*** a **2-dose schedule** (0, 6 months) is recommended.
  - If the interval between doses is shorter than 5 months, then a third dose should be given at least 6 months after the first dose.
- ***Females  $\geq 15$  years at the time of first dose:*** a **3-dose schedule** (0, 2, 6 months) is recommended.
- ***NB: A 3-dose schedule remains necessary for those known to be immunocompromised and/or HIV-infected.***

<https://www.who.int/immunization/diseases/hpv/en>

# Take Home Message

- 1-Possibility of the virus present even there no more warts.
- 2-No 100% efficient of treatment existed.
- 3-Clinical polymorphism of wart.
- 4-We has to treat the partner(s).
- 5-Mecansime action of the vaccination .
- 6-The goad maximal of HPV vaccination coverage must be 70%.
- 7-Nobody die from warts but warts can give cancer.