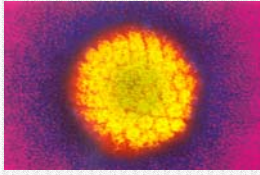


Impfung gegen Humane Papillomaviren



Elmar A. Joura

Universitätsklinik für Frauenheilkunde Wien



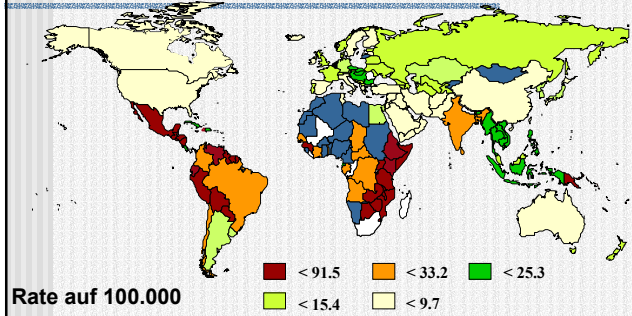
Osterreichische Gesellschaft für Tropenmedizin und Parasitologie



EA JOURA

Wien, 17.4.2007

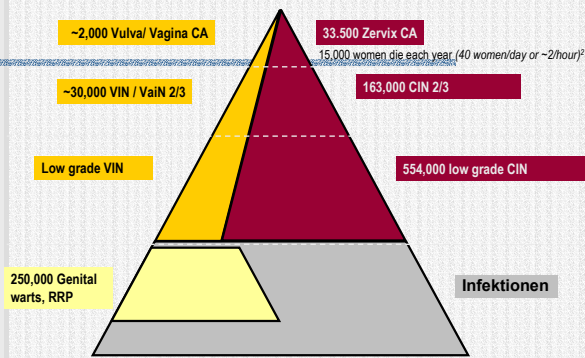
Inzidenz des Zervixkarzinoms - 2000



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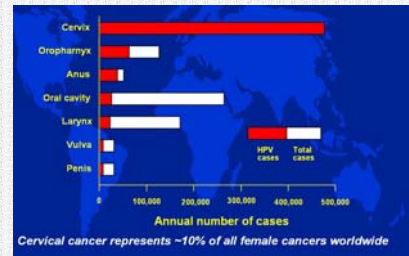
Source: Globocan 2000; IARC

HPV Erkrankungen - Frauen / Jahr in Europa



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HPV assoziierte Karzinome

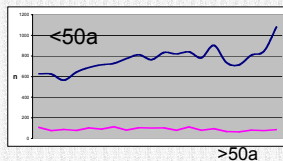


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In situ Karzinome

Österreich 1983-2002

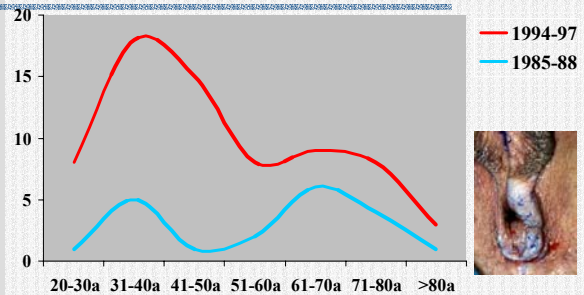
- 6000 Konisationen
- 25-35a
- Frühgeburtsrisiko
- 60.000 abnorme Abstriche



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Trends in Vulvar Neoplasia

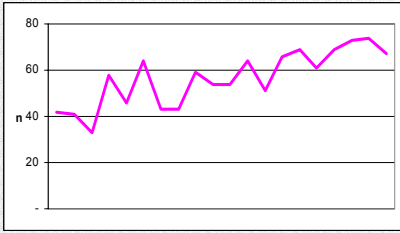
VIN 3 Austria



Joura et al., J Reprod Med 2000

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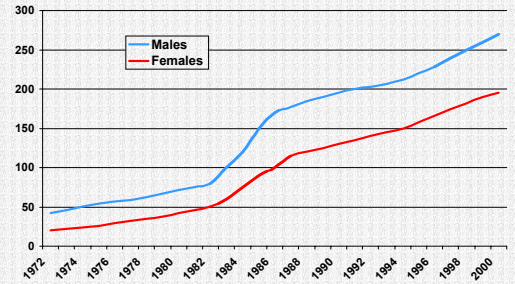
Analkarzinom Frauen Österreich 1983 - 2002



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ÖSTAT 2006

Genital warts U.K.



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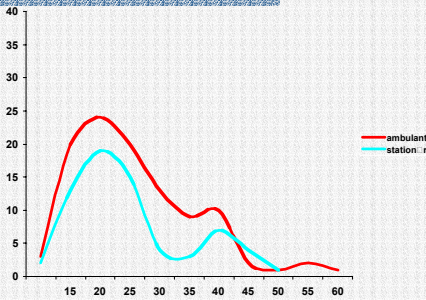
Genitale Warzen 2005

■ Condylox

- n = 8224
- € 11,64

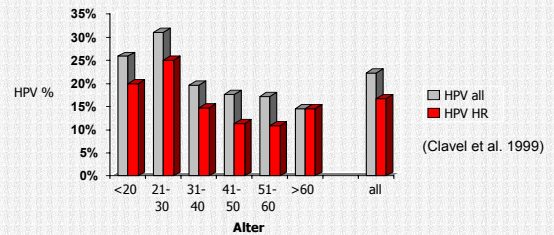
■ Aldara

- n = 7490
- € 62,93



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HPV-Prävalenz



Mindestens 80% „lifetime risk“ für HPV Infektion !

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HPV Übertragung

- Sexuell
 - Kondome schützen nur unzureichend
- Nicht- sexuell
 - Geburt
 - Hautkontakt
- 5-15% der Kinder/ Virgines HPV+



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GARDASIL™ Merck's Quadrivalent HPV L1 VLP Vaccine

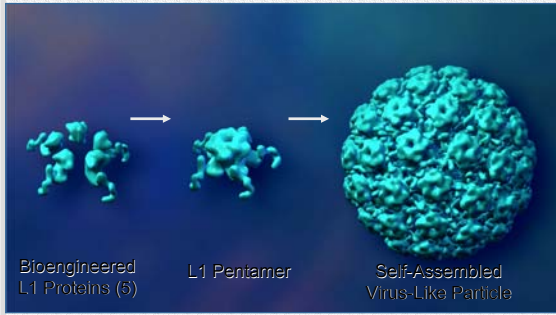
- Quadrivalent HPV (Types 6, 11, 16, 18) L1 Virus Like Particles Vaccine
- VLPs manufactured in *Saccharomyces cerevisiae*
- Amorphous aluminum hydroxyphosphate sulphate adjuvant (AAHS) 225 µg per dose
- 0.5 mL injection volume
- 3 doses within 6 months



GARDASIL is a trademark of Merck & Co., Inc., Whitehouse Station, NJ, USA.

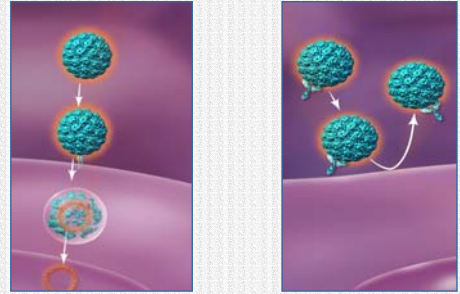
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Virus-Like Particles (VLPs)



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Neutralisierende AK



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„low-risk“ „high-risk“

	häufige Virus-Typen	seltene Virus-Typen	assoziierte Erkrankungen
„nicht onkogene Typen“	6, 11	42, 43, 44, 55+	6, 11: 90% aller Kondylome CIN 1, VIN 1 (25%) Juvenile resp. Papillomatose
„onkogene Typen“	16, 18	31, 33, 45, 26, 35, 39, 51, 55, 52, 56, 58, 59, 66, 68	16, 18: 70% der Zervixkarzinome 70% CIN, VIN 2+3, AIS 70% aller HPV-Karzinome

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Results per protocol – CIN 2+

Endpoint	Quadrivalent vaccine (N=8,487)	Placebo (N=8,460)	Observed efficacy (%; CI)
	Cases	Cases	
CIN 2/3 or AIS	0	53	100.0 (93,100)
CIN 2	0	36	100.0 (89,100)
CIN 3/AIS	0	32	100.0 (88,100)

Median duration of follow-up = 4, 3 or 2 years depending on study



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Prophylactic Efficacy Against HPV 16 or 18-Related VIN 2/3 or VaIN 2/3

Type Specific Per-Protocol Population(s)

	GARDASIL® (N = 9075)		Placebo (N = 9,075)		Efficacy	95% CI
	n	Cases	n	Cases		
HPV 16 or 18-related VIN 2/3	7,771	0	7,742	8	100	(42, 100)
HPV 16 or 18-related VaIN 2/3	7,771	0	7,742	7	100	(31, 100)

An additional 4 cases of HPV 6 or 11-related VIN 2/3 or VaIN 2/3 (not also associated with 16 or 18) were observed in the placebo group (none such cases in the vaccine group).

Joura EA &

Future Investigators

Analysis of Prophylactic Efficacy Against HPV 6, 11, 16, or 18-Related Vulvar condyloma

Vulvar condyloma	GARDASIL® (N = 9075)			Placebo (N = 9075)			Efficacy	95% CI
	n	Cases	Rate*	n	Cases	Rate*		
HPV 6-related	7,374	1	<0.1	6,867	71	0.7	99	(93, 100)
HPV 11-related	7,374	0	0.0	6,867	16	0.2	100	(77, 100)
HPV 16-related	7,071	0	0.0	6,474	14	0.1	100	(73, 100)
HPV 18-related	7,879	0	0.0	7,355	6	0.1	100	(23, 100)

Per-Protocol Population

EA JOURA



International Congress on Anti Cancer Treatment
18th World Congress - February 5-9, 2007 - Palais des Congrès de Paris, France

Fragen?

- Wer soll geimpft werden?
- Impfalter?
- HPV- Test?
- Dauer der Immunität?



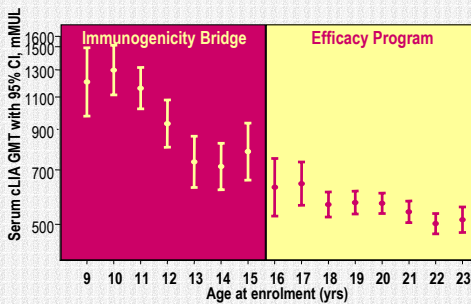
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Zielgruppen

Frauen	16 - 26 a
Mädchen	9 - 15 a
Knaben	9 - 15 a
Frauen	27 - 45 a
Männer	16 - 25 a

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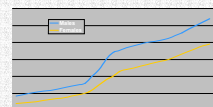
Immunogenität



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HPV- Impfung für Männer

- **Condylome**
♂ > ♀
- Risikofaktor für die Partnerin (RR 10!)
- Herdenimmunität



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HPV- Erkrankungen Männer USA

- 7000 Karzinome HNO
- 1700 Analkarzinome
 - 2/100.000
 - 35/100.000 MSM (HIV-)
- 1200 Peniskarzinome
- 500.000 Condylome
- 3300 juv. respirat. Papillomatose



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Muss vor der Impfung eine HPV- typisierung durchgeführt werden?

- Stamm mit HC2 nicht feststellbar
- >90% transiente Infektionen
- Meistens nur Monoinfektion
- Guter Schutz vor Re-Infektionen
 - Keine therapeutische Wirkung!
- **HPV – Typisierung**
 - **teuer und nicht kosteneffektiv!**

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HPV- Testung

- Requiring any type of screening test would raise the cost of vaccination programs dramatically and reduce the cost-effectiveness of vaccination
- **Testing for HPV is currently not recommended before vaccination**

ACOG The American College of Obstetricians and Gynecologists
Women's Health Care Physicians

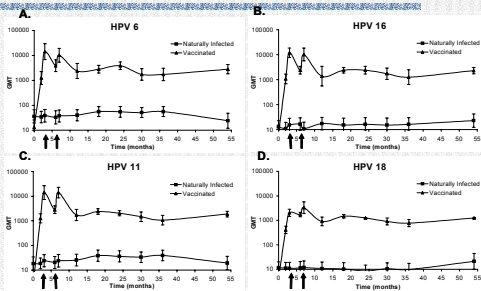
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Wirksamkeit?

- Kreuzprotektion
 - HPV 45 90%
 - HPV 31 50%
- Wirksamkeit für **mindestens** 5 Jahre
 - Lebenslang?
- *Auffrischungsimpfungen?*

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Wirksamkeit



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Produktübersicht

- **Gardasil®**
 - HPV 6, 11, 16, 18
 - Frauen 9-26a, Knaben 9-15a
 - Frauen 27-45a 2007/8
 - Oktober 2006
- **Cervarix®**
 - HPV 16, 18
 - Frauen 10-55a
 - 4. Quartal 2007 ?
 - Europa

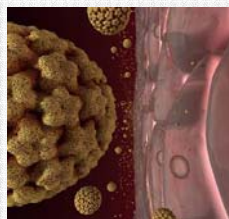
sanofi pasteur MSD
LIZENZIERTE FÜR DEUTSCHLAND

gsk
GARDASIL®
CERVARIX®

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Perspektiven

- Reduktion von CIN (30%)
- Reduktion von Condylomen (50%)
- Langsame Reduktion der Zervixkarzinome
- **Screening weiter notwendig !!!**



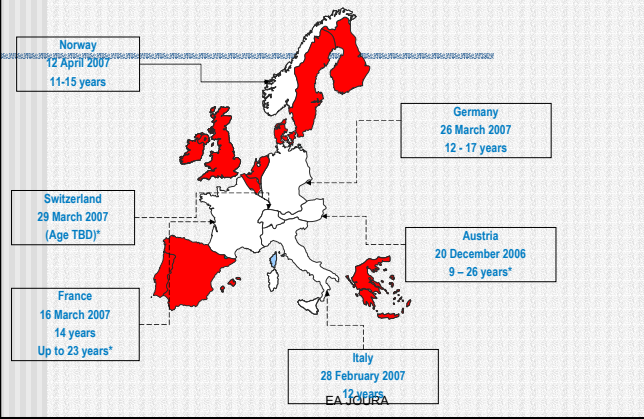
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HPV Österreich

- Europäische Erstimpfung
 - 30. September 2007
- 1. Empfehlung Europas
 - Impfplan 2007 OSR
- Finanzierung?

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Official Country Recommendations in Europe



www.gebaermutterhalskrebs.at

