

# ***Personalised Management in Cervical Pathology***

***in the covid-19 era***

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***Ioannina Medical School***  
***Greece***

***President of the***

- ***Hellenic Society for Colposcopy & Cervical Pathology (HSCCP)***
- ***Hellenic Cervical Pathology Academic study Group (HeCPA Group)***

# Disclosures

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- No financial relationships or conflict of interest to disclose



## *awareness....*

- (+) ve cervical screening test **DOES NOT EQUATE** with significant disease...
- Mx/Tx = *consequences, complications etc.*

therefore....

risk's stratification = *extremely important*

*p-medicine, personalised, precision, stratification*

# Gestation (Weeks)



12

24

28

32

37

2006 Kyrgiou

THE LANCET

*Overall prematurity*

2008 Arbyn



Severe & extreme PD

**Perinatal mortality**

2014 Kyrgiou **BMJ**

2<sup>nd</sup> trimester miscarriages=early pregnancy losses

*Adverse obstetric outcomes after local treatment for cervical preinvasive and early invasive disease according to cone depth:  
systematic review and meta-analysis*

Maria Kyrgiou, Antonios Athanasiou, Maria Paraskevaidi, Anita Mitra,  
Ilkka Kalliala, Pierre Martin-Hirsch, Marc Arbyn, Phillip Bennett,  
Evangelos Paraskevaidis

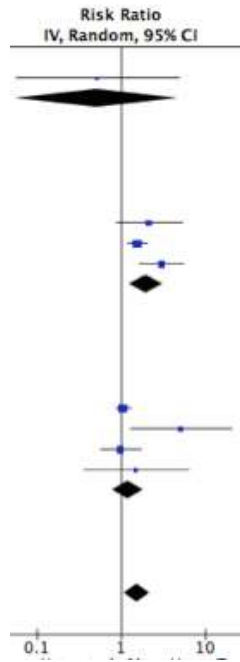
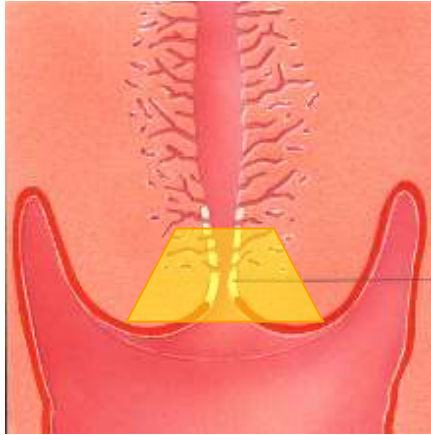
**BMJ 2016**



# JAMA Oncol 2016

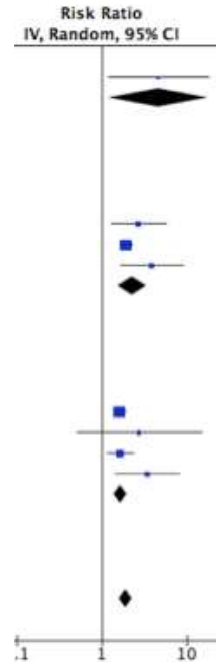
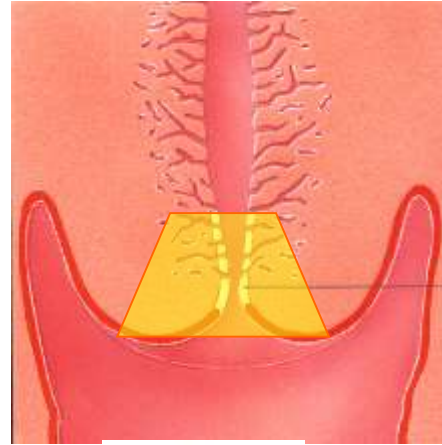
<10/12mm

**1.54** RR



>10/12mm

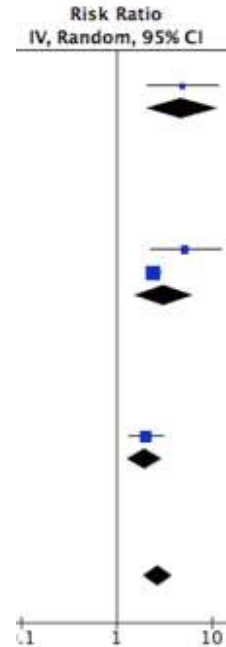
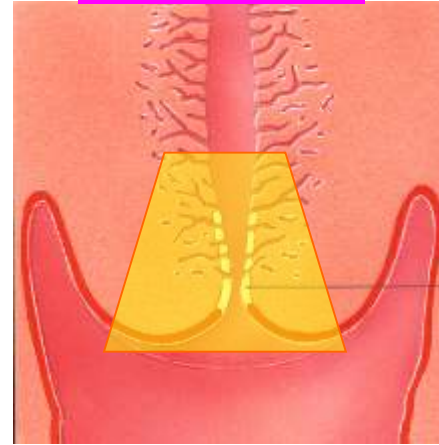
**1.93** RR



# BMJ 2016

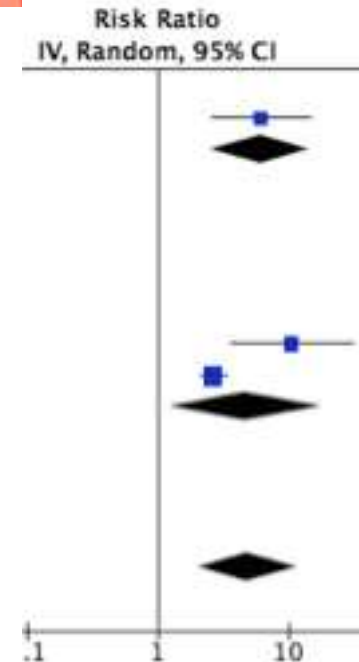
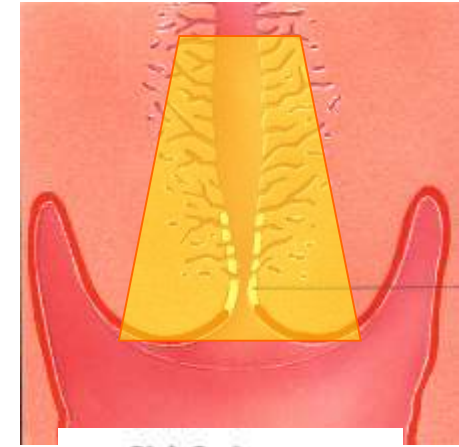
>15/17mm

**2.77** RR



>20mm

**4.91** RR



## Lancet 1997

### Invasive cervical cancer after conservative therapy for cervical intraepithelial neoplasia

Soutter WP, de Barros Lopes A, Fletcher A, Monaghan JM, Duncan ID,  
Paraskevaidis E, Kitchener HC

- 44 699 woman-years FU, 2116 women, 8 yrs post tx
- ***Tx reduces the risk of invasive cancer by 95%***
- *However, it still remains:*

***X 5 greater than that among the general population***

*6 January 2020*

**Incidence and mortality from Cx Ca and other malignancies after treating CIN: a systematic review and meta-analysis of the literature**

*I.Kalliala, A.Athanasidou, A.Veroniki, G. Salanti, O. Efthimiou, N.Raftis, S.Bowden, M. Paraskevaidi, K. Aro, M.Arbyn, P. Bennett, P.Nieminen, E. Paraskevaidis & M. Kyrgiou \**



## EDITORIALS

Long term outcomes for women treated for cervical precancer

2016

*M Arbyn , M Kyrgiou , J Gondry , K U Petry , E Paraskevaidis*

*.. state of Art balance...*

**1. Eradication precancer (life time)**

**2. risk of future cancer**

**3. obstetric morbidity**

*as in gen population*

# Hellenic Cervical Pathology Academic Group (HeCPA Group)

**Design** Prospective, **pragmatic**, diagnostic *series of studies*, **ongoing**

**Setting** Academic Depts. OB-GYN, Greece  
**Coordinating center:** Ioannina

**Population** Women referred with LSIL

**Period** **10/2008-ongoing**

**Intervention** HPV typing, NASBA, flow cytometry,  
**APTIMA** , p16

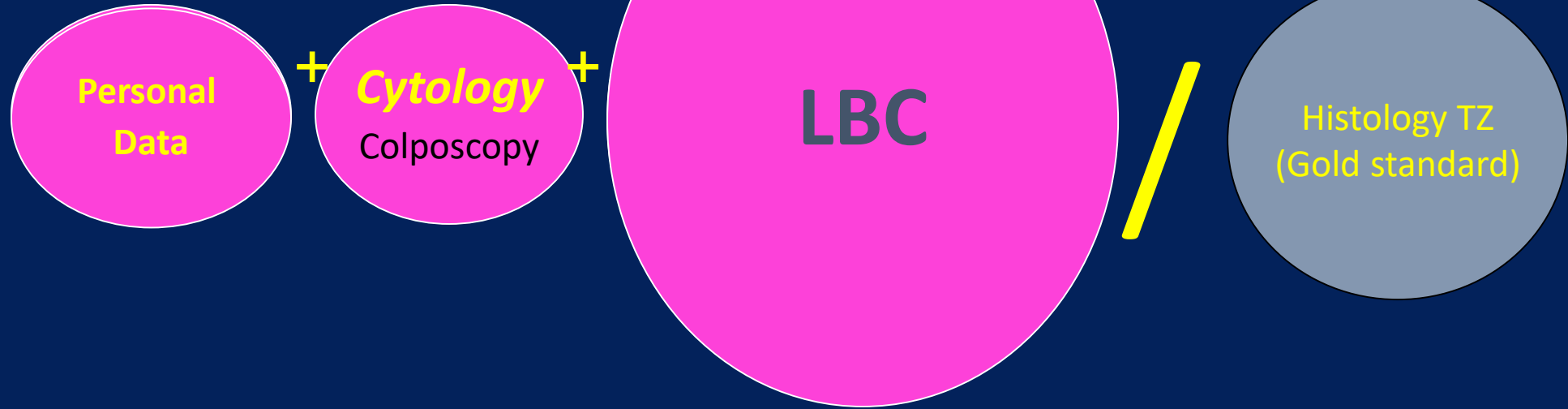
**Outcomes** S, SP, PPV, NPV for each marker and combinations

**End point** CIN2+

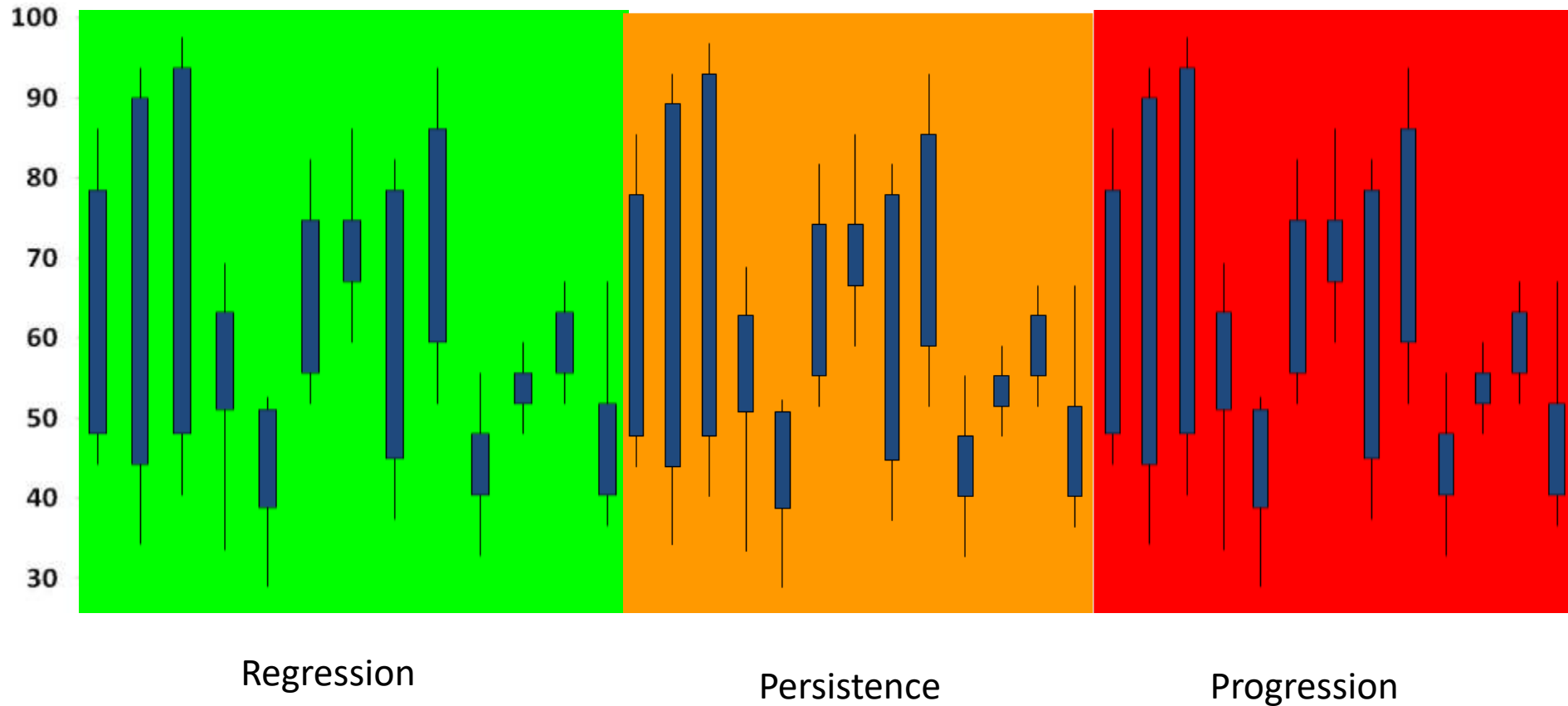
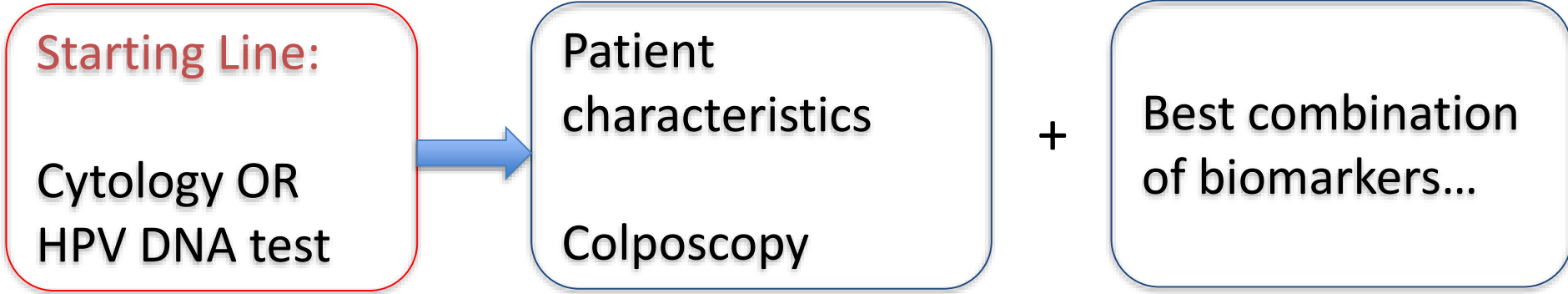


# Scoring System

12 +, parameters



# Scoring System



**Cervical Pathology Following HPV Vaccination in Greece:**  
**A 10-year HeCPA Observational Cohort Study**

***In Vivo 2020 May-Jun***

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*Paraskevaidis E, Athanasiou A, Paraskevaidi M, Bilirakis E, Galazios G, Kontomanolis E, Dinas K, Loufopoulos A, Nasioutziki M, Kalogiannidis I, Athanasiadis A, Papanikolaou A, Vatopoulou A, Grimbizis G, Tsolakidis D, Daponte A, Valasoulis G, Gritzeli S, Michail G, Adonakis G, Paschopoulos M, Tsonis O, Anaforidou ME, Batistatou A, Kyrgiou M*

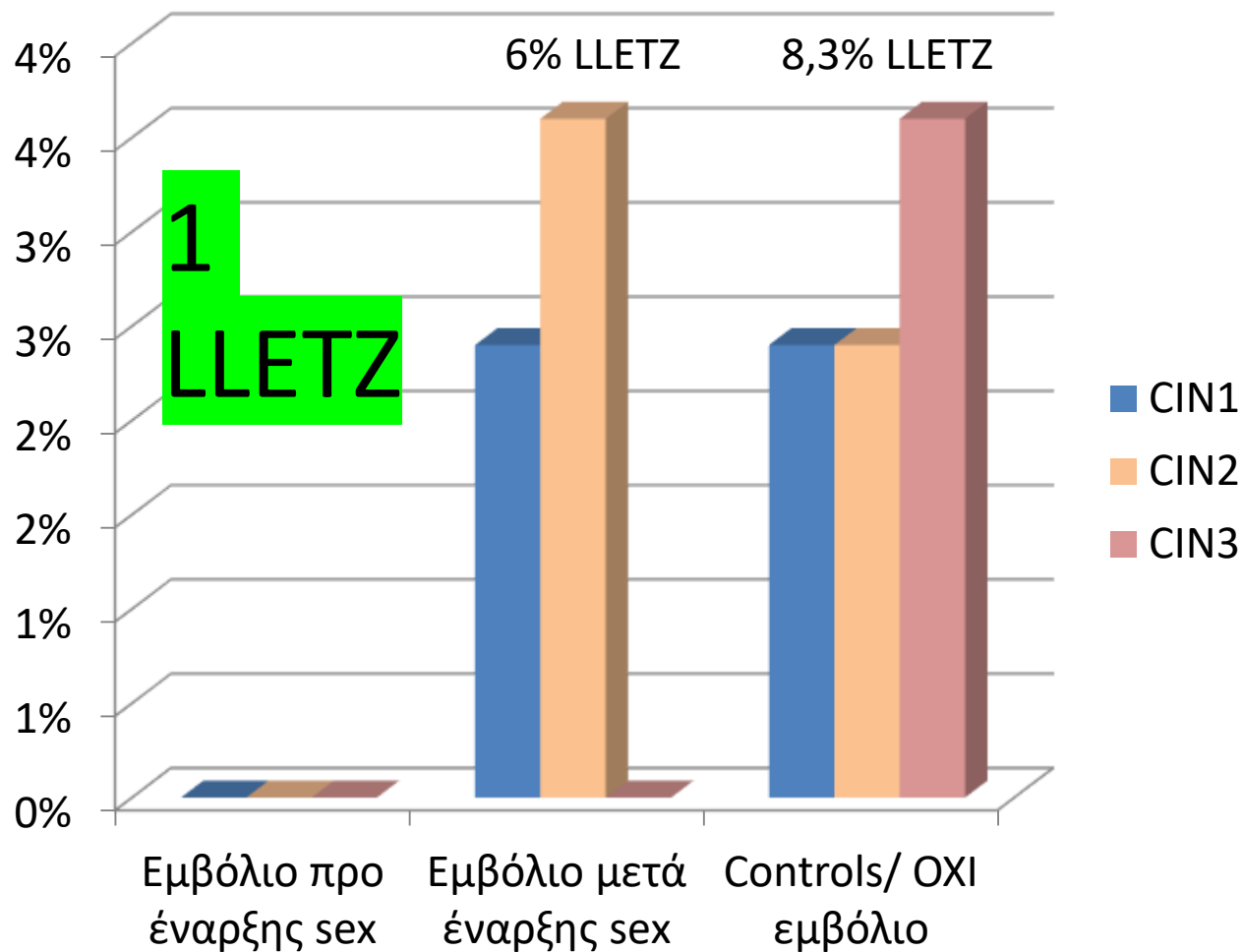
**& HeCPA (Hellenic Cervical Pathology Academic) Group**

# Παθολογία τραχήλου σε HPV εμβολιασθείσες γυναίκες στην Ελλάδα

HeCPA Group , **n = 849**

*Απόφαση για θεραπεία / ιστολογία*

**In Vivo 2020**



Prevalence of cervical disease *at age 20* after immunisation with bivalent HPV vaccine  
*at age 12-13, in Scotland*

*BMJ April 2019*

- HPV vaccine in Scotland has led to a :  
dramatic reduction in preinvasive cervical disease*
- Common sense dictates that it should also :  
greatly reduce the incidence of cervical cancer*

# HPV Vaccination and the Risk of Invasive Cervical Cancer

*NEJM October 2020*

## **CONCLUSIONS**

Among Swedish girls and women 10 to 30 years old, quadrivalent HPV vaccination was associated with a

**substantially reduced risk of invasive cervical cancer**

at the population level.





















# Life Style - Cervical Pathology Risk

LS-CPR

- *BSCCP 2016 & 2019*

- 2020 'in press'

1. -smoking	No		socially		>20cg	
2. -menarche/onset sex	>10		>5		<3	
3. -sexual partners	<5		5-10		>10	
4. condom use	100%		50%		0%	
<b>5. -vaccine(ps,as,no)</b>	<b>prior sex</b>		After sex		No	
6. -post-tx:grade,margins	free		involved		inv+G3	

# ***Optimal individualisation...in the post-covid era...***

## ***Hellenic Cervical Pathology Academic Group***

- ~ 12 years, prospective data (*pragmatic design*)
- > 70,000 women
- > 80 publications ( *pubmed* )
- > 20 awards

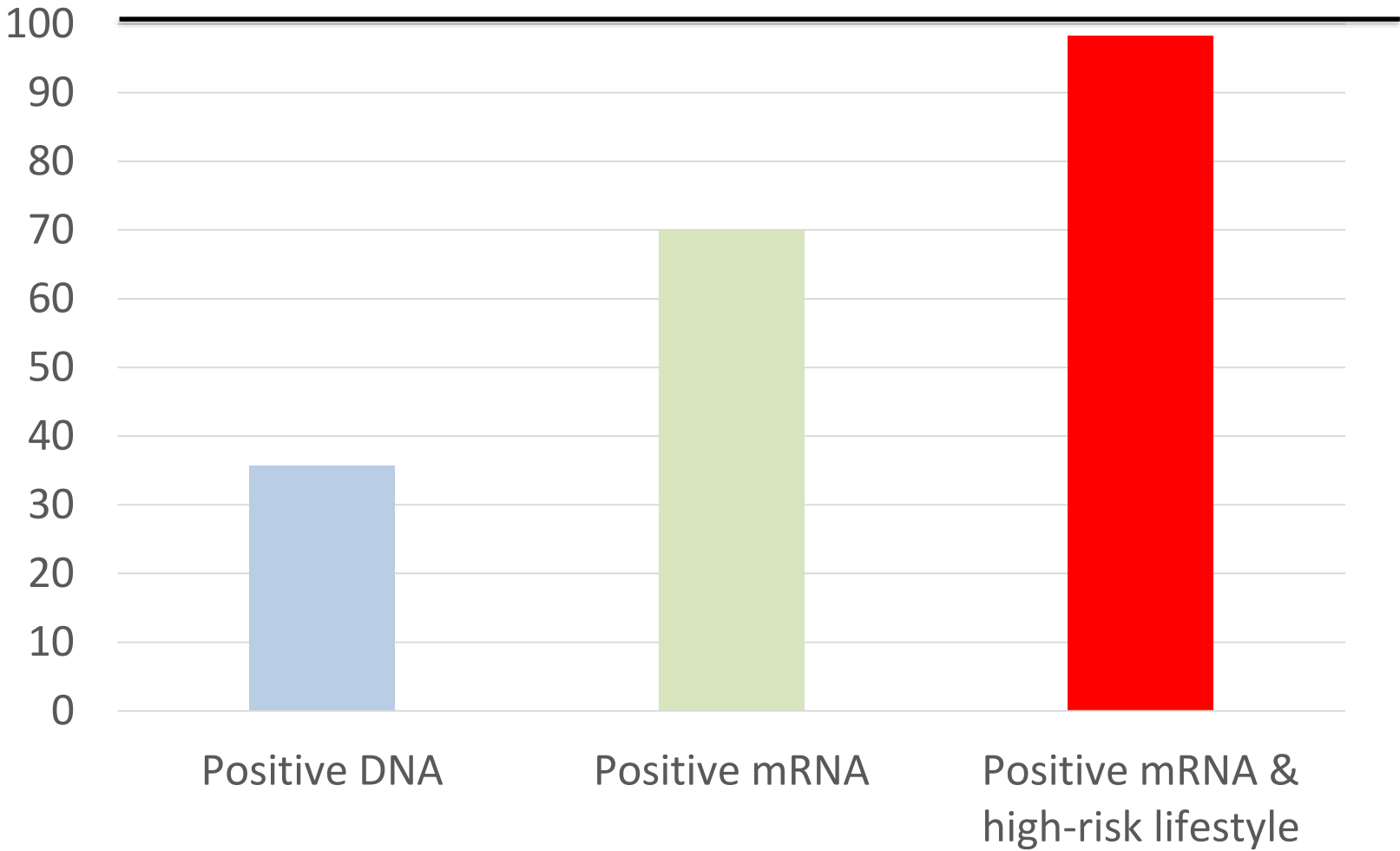
***Best & Cost-effective combination :***

***HPV biomarkers risk ( **APTIMA** ) + Life Style Risk***

***American Guidelines (JLGTD April 2017)***

***Australian Guidelines***

**Positive predictive value (PPV)**  
*for histological CIN2+*



# Personalized management of women with cervical abnormalities using Clinical Decision Support Scoring System

M Kyrgiou, A Pouliakis, JG Panayotides, N. Margari, P Bountris, G Valasoulis, M Paraskevaidi, E Bilirakis, M Nasioutziki, A Loufopoulos, M Haritou, DD Koutsouris, P Karakitsos, E Paraskevaidis

**Gynecologic Oncology**, April 2016, 'Precision in Medicine'

<http://cxcadss.biomed.ntua.gr/> Select Demo

The screenshot displays the user interface for entering clinical data. It includes several sections:

- Pap Test Result:** A checkbox for 'Completed' (checked) and a dropdown menu showing 'CA'.
- HPV DNA Test Result:** A checkbox for 'Completed' (checked) and a grid of buttons representing HPV types. Type 45 is highlighted with a green checkmark.
- NASBA Result:** A checkbox for 'Completed' (checked) and buttons for types 16, 18, 31, 33, 45 (checked), and N/A.
- Flow Cytometry Result:** A checkbox for 'Completed' (checked) and a dropdown menu set to 'POSITIVE'.
- p16 Result:** A checkbox for 'Completed' (checked) and a dropdown menu set to 'NEGATIVE'.
- Histology:** An empty text input field.
- Colposcopy:** An empty text input field.

**Results**

Prediction Results  
The case is classified by the system as Ca

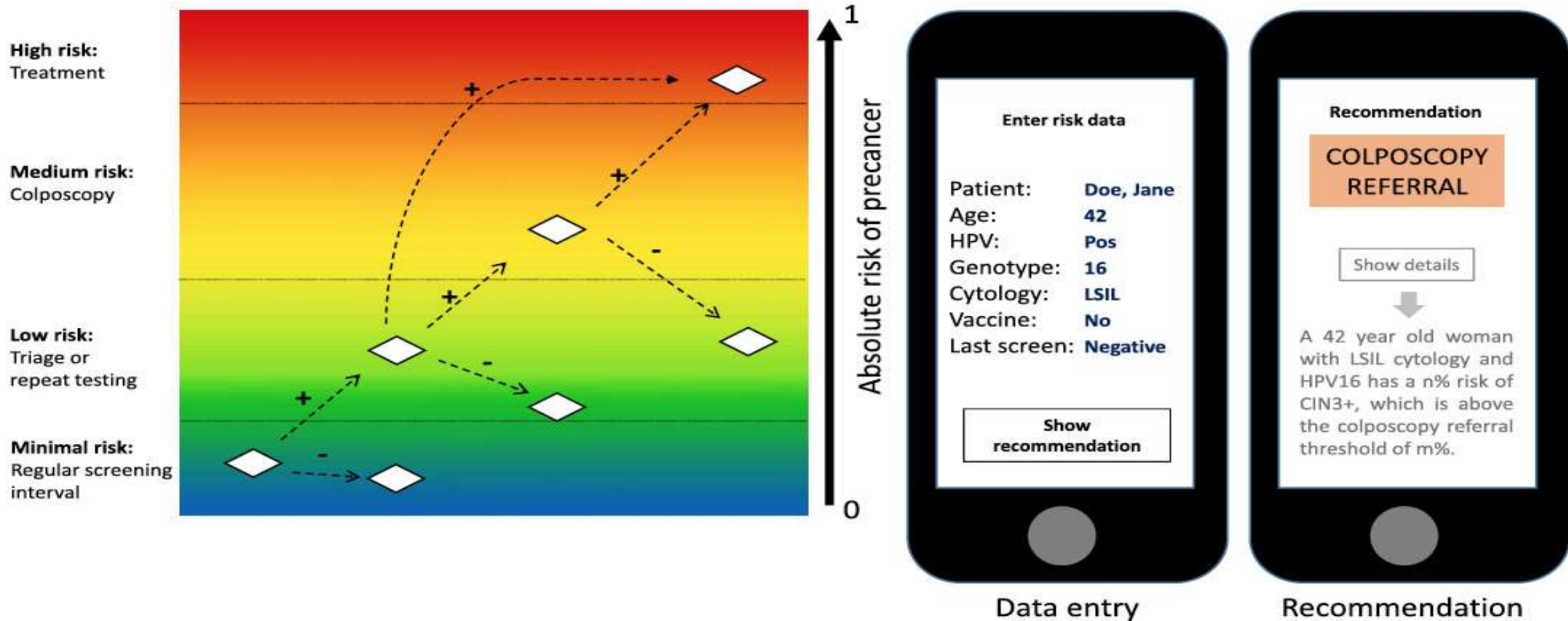
Probability of Negative Histology  
0%

Probability of CIN 1  
0%

Probability of CIN 2/3  
0%

Probability of Ca  
100%

# Preparing for the Next Round of ASCCP-Sponsored Cervical Screening & Management Guidelines



*American Society Colposcopy & CP, JLGTD April 2017  
ASCCP 2020 ,Risk Based Management of Cervical Disease*



