

# Lo mejor de la DDW-2024 Colon y CC

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## Washington DC



# GLP-1 Drugs

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- **GLP-1 Drugs Linked to Low Quality bowel preparation**  
Rebeca Yao MD Mayo Clinic
- 265 casos 181 controles
- Aumento significativo de suspensión de colonoscopia en pacientes con GLP-1
- Versus 3 meses después de suspendido

# Triage for Screening Colonoscopy

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- Personalization based on risk assessment
- Using past screening results to adapt a personalized screening program
- Reineer Meester (Netherlands)
- Prof. Adjunto Stanford

# Overall

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- Detección de CCR baja 1%
- Neoplasia avanzada 12%
- Mayor en quienes tenían neoplasia avanzada previa
- Test no invasivos, útiles para seleccionar pacientes mayores para colonoscopia

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- **Adaptative colonoscopy**

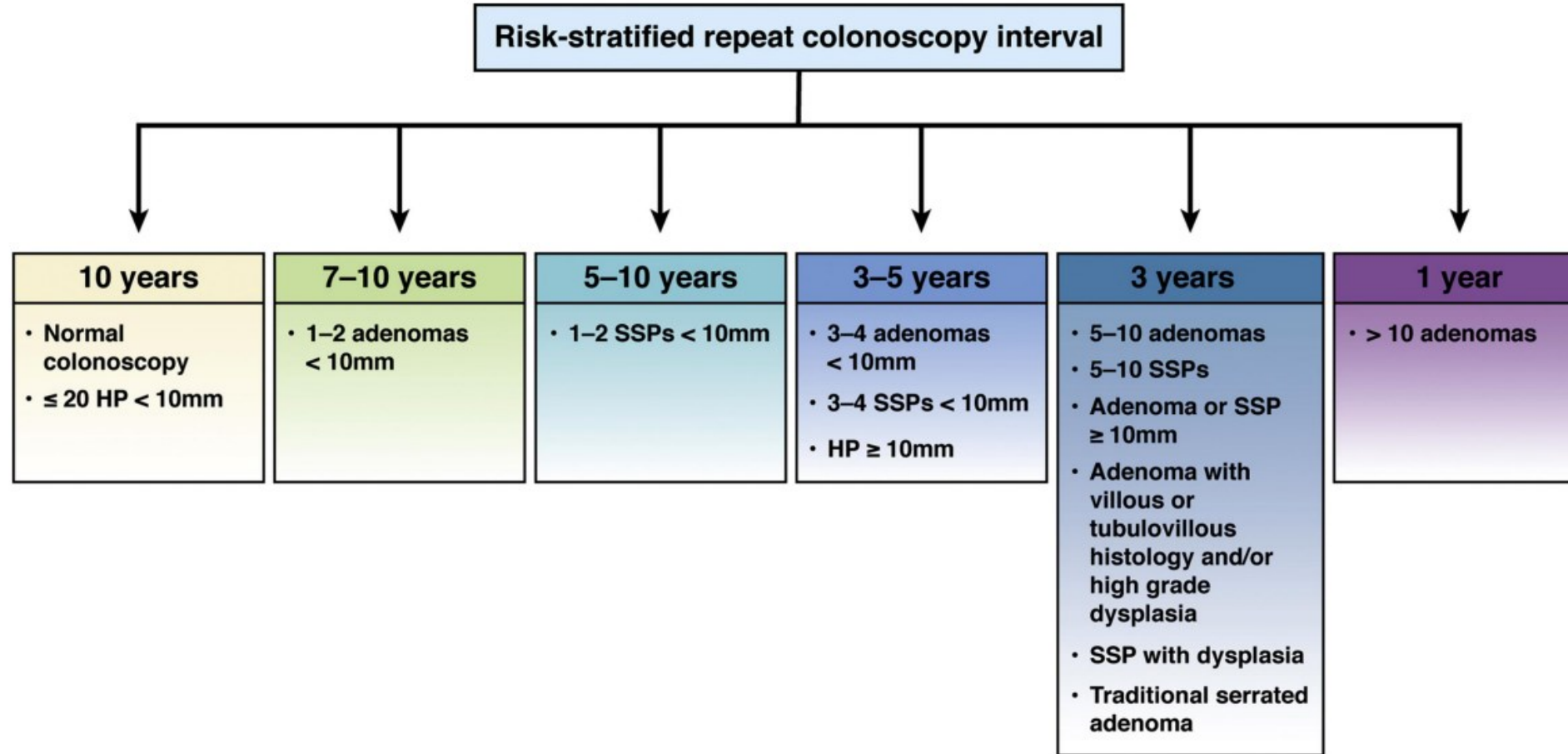
- Risk- Stratified repeat colonoscopy interval

- Los resultados previos

entregan información relevante para programas adaptativos

Screening de CRC adaptativo personalizado, es una frontera valiosa

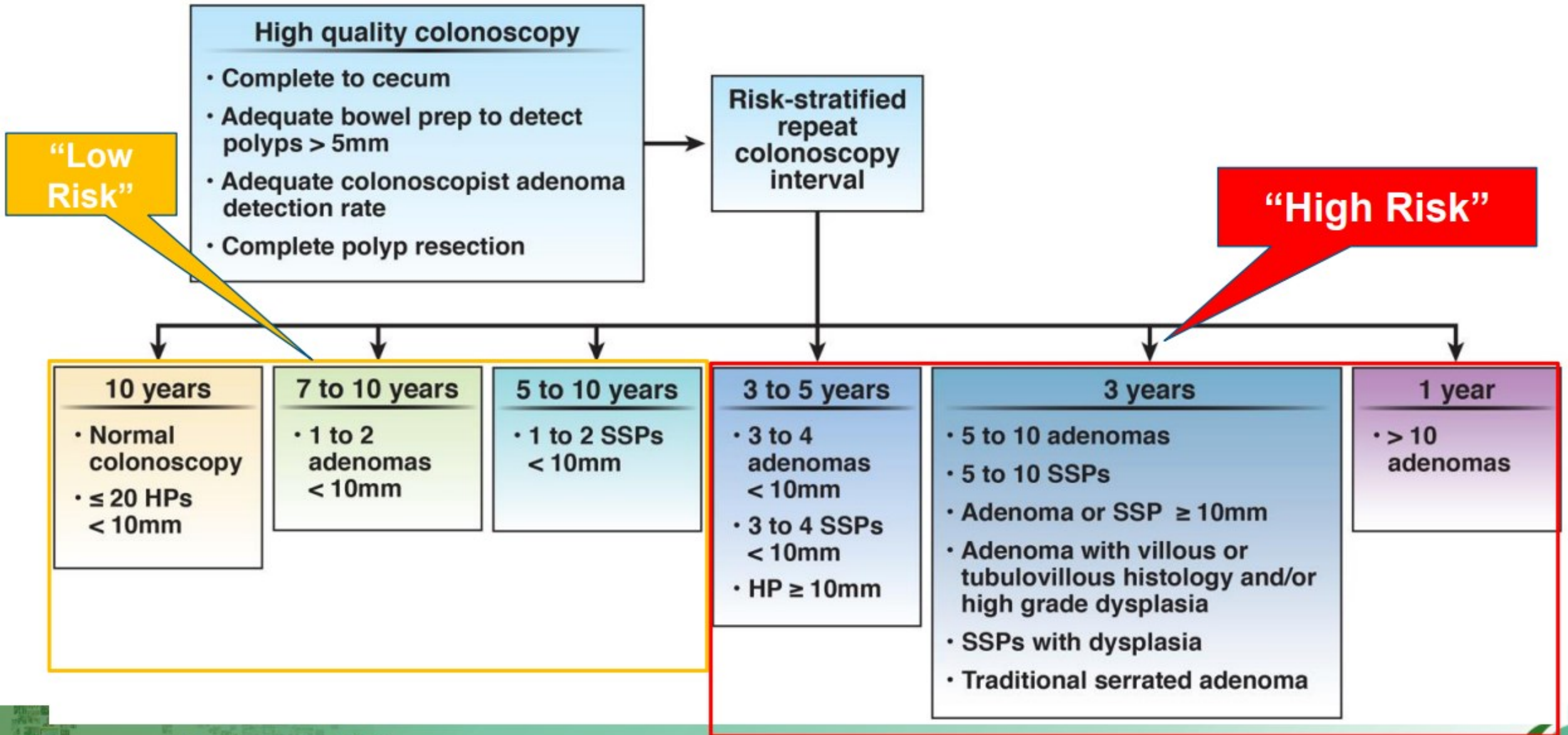
# Adaptive colonoscopy



Gupta S. et al. Recommendations for Follow-Up After Colonoscopy and Polypectomy. *Gastroenterology*, 2020.



# One Approach to Risk Stratification



# Triage

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- Triage para colonoscopia de Tamizaje
- Recurso escaso, ocuparlo con inteligencia
- FIT + Cribado por diferentes puntos de corte
- Riesgo genético manejo diferente
- Obesos, alcohol, tabaco, sedentarios, acromegalia, oligodontia
- Edad 45-50 á, 45-75á, >75á, >80.....





# **Risk prediction to prescribe a life-long personalized screening program, including age to start and frequency**

Ulrike Peters

Fred Hutchinson Cancer Center

University of Washington

Li Hsu,  
Professor at Fred  
Hutchinson Cancer Center

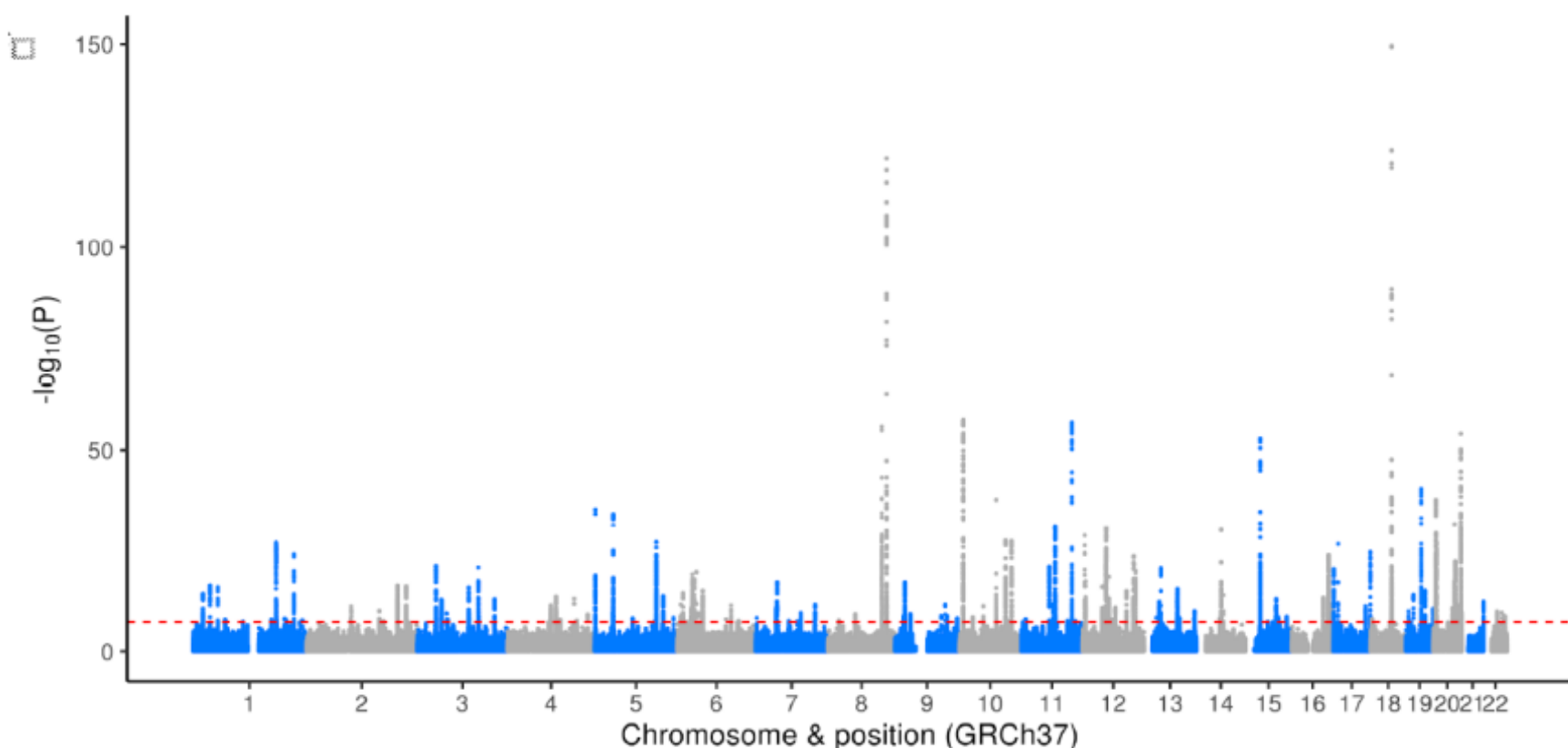


# Heritable and Environmental Contributions in Common Cancers

Cancer Site	Heritable Factors	<u>Environmental Factors</u>	
		Shared	Non-shared
Prostate	0.42 (0.29-0.50)	0 (0-0.09)	0.58 (0.50-0.67)
<b>Colorectal</b>	<b>0.35 (0.10-0.48)</b>	<b>0.05 (0-0.23)</b>	<b>0.60 (0.52-0.70)</b>
Bladder	0.31 (0.00-0.45)	0 (0-0.28)	0.69 (0.53-0.86)
Breast	0.27 (0.04-0.41)	0.06 (0-0.22)	0.67 (0.56-0.76)
Lung	0.26 (0.00-0.49)	0.12 (0-0.34)	0.62 (0.51-0.73)

# Genome-wide Association Study Suggests More Genetic Variants Contribute to Risk Prediction of Colorectal Cancer

Genome-wide association testing including >100,000 CRC cases and 150,000 CRC controls  
Manhattan plot (each dot is one genetic variants we tested >1M genetic variants)



# Use of genetic risk prediction as early detection vs. risk stratification tool

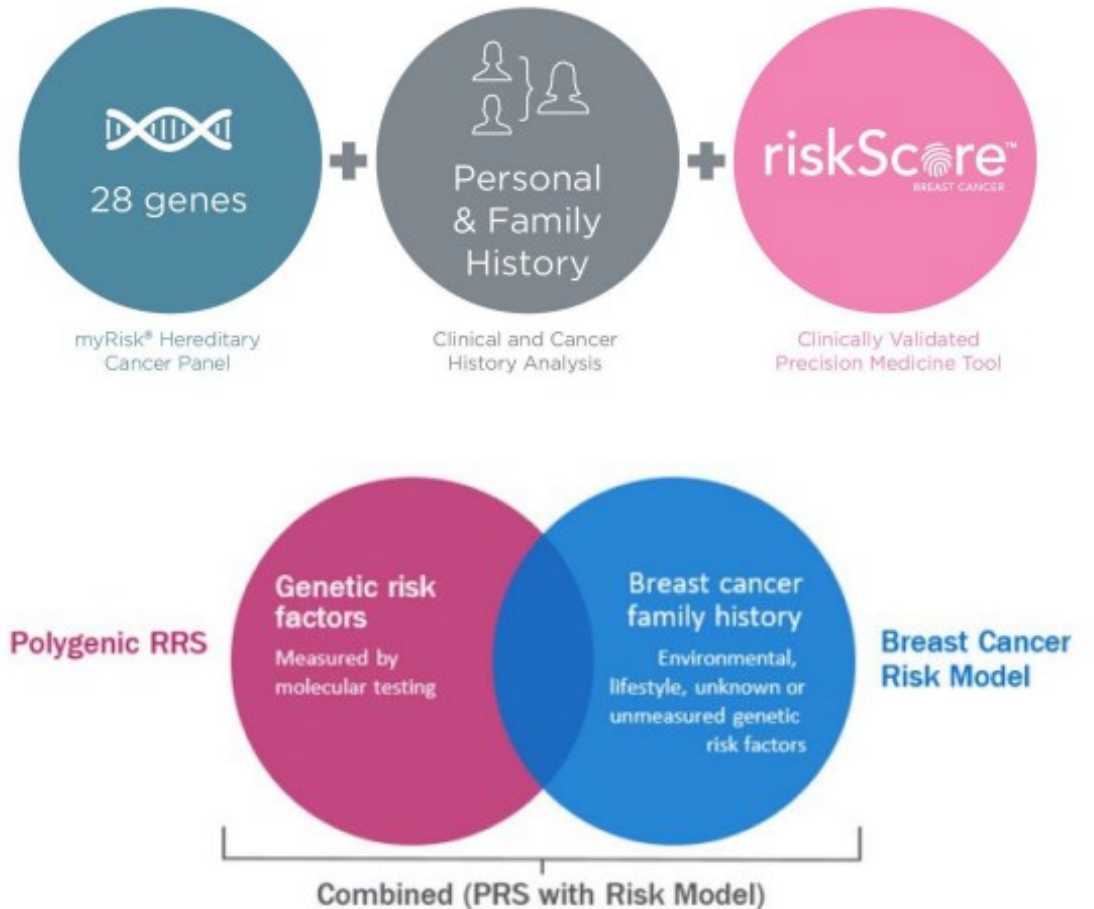
- *Risk stratification* aims to identify high-risk individuals who can benefit from earlier and/or more frequent screening
  - Polygenic risk score (PRS) only needs to be measured once (could be at birth)
- *Early detection* aims to detect precursor or early-stage disease
  - Biomarkers usually require repeated measurements over defined time intervals close to disease onset
  - As a result, the sensitivity and specificity of early detection biomarkers need to be high for them to be effective



# Commercialization of polygenic risk scores

- Myriad has included polygenic risk score in genetic testing since 2017
- Other companies are following, such as Ambry Genetics, Color Genetics,...
- Polygenic risk scores as one of the top 10 Breakthrough Technologies in 2018 by MIT Technology Review

Myriad myRisk® Enhanced with riskScore™ Result is More Comprehensive



# Genetics and Epidemiology of CRC Consortium GECCO (AI)

- Recurso en crecimiento
- Mas de 80 estudios
- 150.000 participantes con estudio genético, clínico y epidemiológico & datos de estilo de vida
- 3.000 con secuenciación completa del genoma
- 30.000 con datos clínicos y de sobrevivida
- 15.000 con datos caracterizados del tumor
- 7.000 con datos de secuenciación del tumor

- 
- Estudio previo Mellizos OR 0.35 (NEJM 2000)
  - Estudios ambientales y geneticos predictores riesgo
  - Estudios ambientales y poligencos informan la edad de comienzo del screening
  - Estudios amplios de Genoma (Manhatan) sugieren mas variantes geneticas que contribuyen a predecir riesgo de CCR
  - 140 variantes



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- Mas de 80% de CRC NO tienen historia familiar
  - Estratificación de riesgo, predice individuos en mayor riesgo que se benefician de screening precoz y más frecuente
  - Detección precoz de precursores y enfermedad en estadio precoz
  - Riesgo poligénico predice precursores y EO-CRC
  - Interfiere algoritmos actuales de estudios con Colonoscopia
  - Myriad myRisk<sup>®</sup>



WEO

The voice of world  
endoscopy

# Colonoscopy quality

## Perspective from outside North America

**Masau Sekiguchi, MD, PhD** ([masekigu@ncc.go.jp](mailto:masekigu@ncc.go.jp))

- 1. Endoscopy Division/Cancer Screening Center, National Cancer Center Hospital, Tokyo, Japan*
- 2. Division of Screening Technology, National Cancer Center Institute for Cancer Control, Tokyo, Japan*



# Colorectal Cancer Screening in Asia

Country/Region	Launch Year	Age of Target Population (years old)	Screening Test in Population-based Screening	
Japan	1992	≥40	<b>FIT</b>	Annual, 2 day
South Korea	2004	≥50	<b>FIT</b>	Annual, 1 day
Taiwan	2004	50-74	<b>FIT</b>	Biannual, 1 day
Singapore	2011	≥50	<b>FIT</b>	Annual, 2 day
Hong Kong	2018 (pilot 2016)	50-75	<b>FIT</b>	Biannual, 1 day
Thailand	2017 (pilot 2014)	50-70	<b>FIT</b>	One time, 1 day

✓ Total colonoscopy is used as the primary exam only in the opportunistic screening.

Ref) Lui RN, Wong SH, Ding NS, Sekiguchi M, Yu J, Ang TL, Yeoh KG, Chiu HM, Sung JYY. Is this the end of colonoscopy screening for colorectal cancer? An Asia-Pacific perspective. *J Gastroenterol Hepatol.* 2023; 38: 671-77.



# Colonoscopy for FIT+ in Population-based Screening in Asia

Country/Region	Any special regulations for endoscopists such as experience of colonoscopy?		Government Financial Support <small>(Medical Reimbursement etc.)</small>	Cost for a colonoscopy procedure <small>(USD: exchange rate on April 23, 2024)</small>
Japan	No	JGES has started the certification system requiring experience of $\geq 300$ colonoscopies	Yes	100 (323-452 with polypectomy)
South Korea	No	Usually gastroenterologists and surgeons	Yes	87 (145 with polypectomy)
Taiwan	No	Usually gastroenterologists and surgeons	Yes	125 for FIT+ (73 for others)
Singapore	No	Usually gastroenterologists and surgeons	Yes	954 (3083 with polypectomy)
Hong Kong	No	Gastroenterologist and General Surgeon	Yes	$\approx 1276$
Thailand	No	Usually certified surgeon or gastroenterologist with experience of $\geq 100$ colonoscopies	Yes	(complicated)

● No nurse endoscopists

Ref) Sekiguchi M, Westerberg M, Ekblom A, Hultcrantz R, Forsberg A (SCREESCO). Gastroenterology. 2023 Feb;164(2):293-295.e4.

Based on personal communications with Drs. Wen-Feng Hsu, Han-Mo Chiu, Chang Mo Moon, Jonathan Lee Wei Jie, Rashid N Lui, Supakij Khomvilai, and Takahisa Matsuda.



# Management System of Colonoscopy Quality in Asia

Country/Region	Does the country/region have its own guidelines or documents on colonoscopy quality indicators?		Nationwide standardized format for colonoscopy reports?	Nationwide system of monitoring colonoscopy quality?	Nationwide feedback system of colonoscopy quality to intuitions?	Nationwide feedback system of colonoscopy quality to endoscopists?
Japan	Yes	Colonoscopy screening and surveillance guidelines (JGES). Dig Endosc. 2021;33: 486-519.	No	No	No	No
South Korea	No	Referring to US guidelines	No	No	No	No
Taiwan	Yes	The Taiwan Guideline for CRC Screening. URL: <a href="https://www.dest.org.tw/DB/News/file/501-2.pdf">https://www.dest.org.tw/DB/News/file/501-2.pdf</a>	Yes <small>(for population-based screening)</small>	Yes <small>(for population-based screening)</small>	Yes <small>(for population-based screening)</small>	Yes <small>(for population-based screening)</small>
Singapore	No	Referring to US guidelines	No	No	No	No
Hong Kong	No	Referring to US and AP guidelines	No	No	No	No
Thailand	No	—	No	No	No	No

*Based on personal communications with Drs. Wen-Feng Hsu, Han-Mo Chiu, Chang Mo Moon, Jonathan Lee Wei Jie, Rashid N Lui, Supakij Khomvilai, and Takahisa Matsuda.*



# Japan

- Japan Gastroenterological Endoscopy Society (JGES) tries to establish the nationwide endoscopy database.

## Japan Endoscopy Database (JED)

<https://jedproject.jges.net/>

Ref) Matsuda K, Tanaka K, Fujishiro M, et al. Dig Endosc. 2018; 30: 5-19.  
Saito Y, Kodashima S, Matsuda T, et al. Dig Endosc. 2022; 34: 144-152. etc.

- JGES initiated the system of “certified endoscopists for screening endoscopies” in 2022.

## Requirements for certified endoscopists who can perform screening colonoscopy

- Experience of  $\geq 300$  colonoscopy procedures (From 2025,  $\geq 500$ )
- Hands-on seminars and lectures

etc.

<https://www.jges.net/screening>



# Japan

## J-SCOUT Study

Ref) Kawamura T, Sekiguchi M, et al. Dig Endosc. 2023; 35: 615-24. Kawamura T, Sekiguchi M, et al. Dig Endosc. 2024; 36: 51-8.

*186,293 cases of colonoscopy procedures performed for the study participants aged  $\geq 20$  years at the eight participating institutions between April 2010 and March 2020 in the J-SCOUT study*

Exclusion (with overlap in the following conditions)

- ✓ Cases of colonoscopy procedures performed within six months after the prior colonoscopy (n=31,533)
- ✓ Cases of colonoscopy procedures performed for identified colorectal lesions (n=25,190)
- ✓ Cases of emergency colonoscopy procedures (n=1,873)
- ✓ Cases of colonoscopy procedures performed for participants with inflammatory bowel disease (n=9,910)

*129,065 cases of colonoscopy procedures analyzed*

ADR (based on pathological diagnoses): **32.7%** (95%CI: 32.5–33.0)

### Underestimated value

- ◆ The Japanese guidelines allow diminutive benign adenomas <5mm to be left unresected (with the diagnosis using magnifying IEE).  
Ref) Saito Y, ---, Sekiguchi M, ---, et al. Colonoscopy screening and surveillance guidelines. Dig Endosc. 2021; 33: 486-519.  
Sekiguchi M, et al. Am J Gastroenterol. 2019; 114: 964-973.
- ◆ Due to relatively easy access to colonoscopies in Japan, polyps may not be removed at the time of examination and left for treatment on another day.



## J-SCOUT Study

Ref) Kawamura T, Sekiguchi M, et al. Dig Endosc. 2023; 35: 615-24. Kawamura T, Sekiguchi M, et al. Dig Endosc. 2024; 36: 51-8.

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- ✓ Cases of colonoscopy procedures performed for participants wit

129,065 cases of colonoscopy procedures analyzed

Exclusion (with overlap in the following conditions)

- ✓ Cases of colonoscopy procedures performed for unknown indica
- ✓ Cases of colonoscopies from 4 hospitals that had a policy of leav

47,705 cases of colonoscopy procedures analyzed

**Table 3** Adenoma detection rates by colonoscopy indications

	N	ADR (%)	95% CI
Overall	47,705	38.3	(37.8, 38.7)
Indications			
Screening; asymptomatic, prior FIT unavailable	11,339	38.1	(37.2, 39.0)
Positive FIT		42.2	(41.1, 43.2)
Bloody stool	3434	30.0	(28.5, 31.6)
Temporary abdominal symptoms	4969	25.5	(24.3, 26.7)
Surveillance after surgery for CRC	4889	34.2	(32.9, 35.6)
Surveillance after endoscopic polypectomy	8687	46.2	(45.2, 47.3)
Others	5212	39.9	(38.6, 41.3)

ADR, adenoma detection rate; CI, confidence interval; CRC, colorectal cancer; FIT, fecal immunochemistry test.



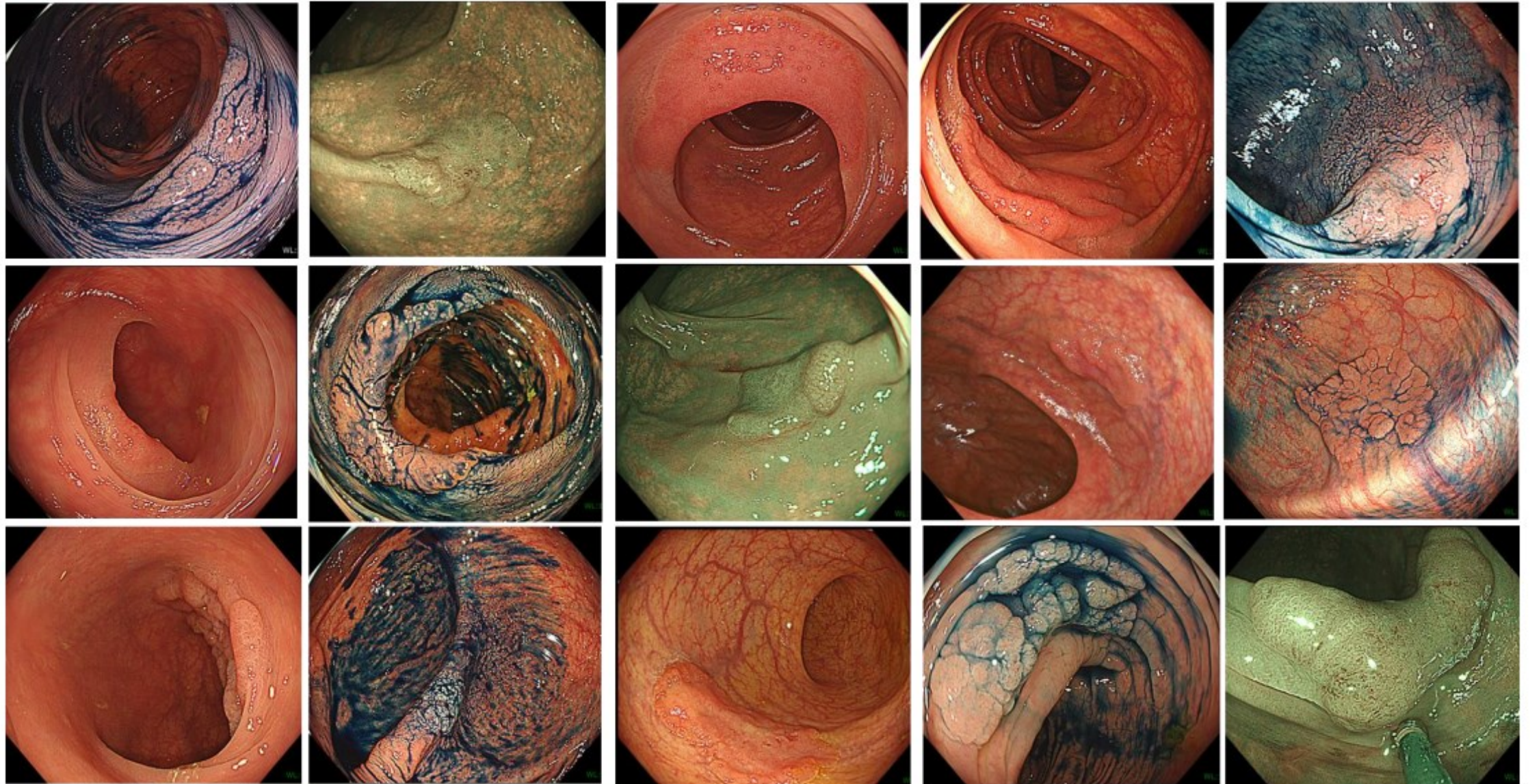


# Problemas para calidad de colonoscopia Asia

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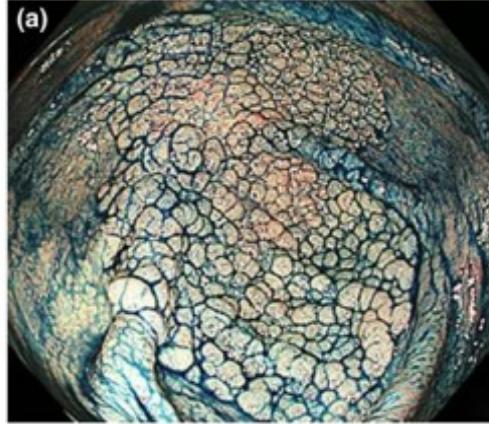
- Detectar Lesiones planas, LST,
- Flat Adenoma Detection rate (AI)
- Ss lesion Detection Rate

# Detection of Flat Lesions

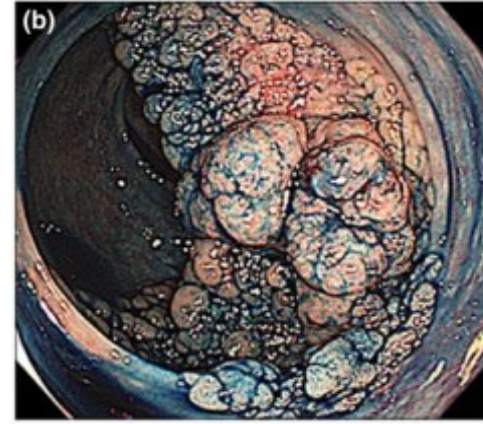


# Flat Lesions: Laterally Spreading Tumor (LST)

## LST-G (granular type)

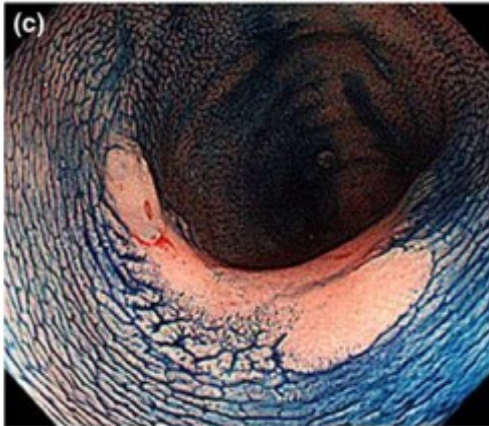


Homogeneous type (LST-GH)

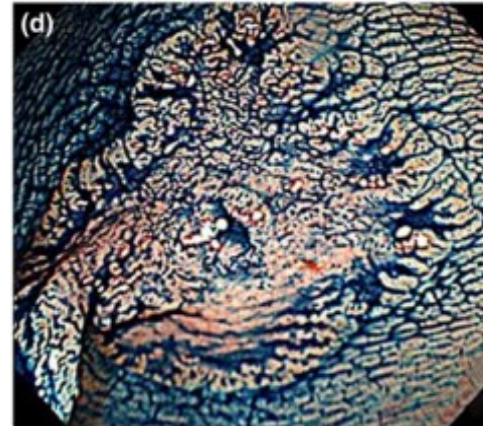


Nodular mixed-type (LST-GM)

## LST-NG (nongranular type)



Flat-elevated-type



Pseudo-depressed type

Ref) Digestive Endosc  
2020; 32: 219-39



# CRC Screening in Asia

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- ADR basado en histología **32,7 %**



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# The new WEO CRC SC Taskforce on Colonoscopy quality assurance: Disseminating best-practices worldwide

Evelien Dekker

Amsterdam University Medical Centers, Amsterdam, the Netherlands

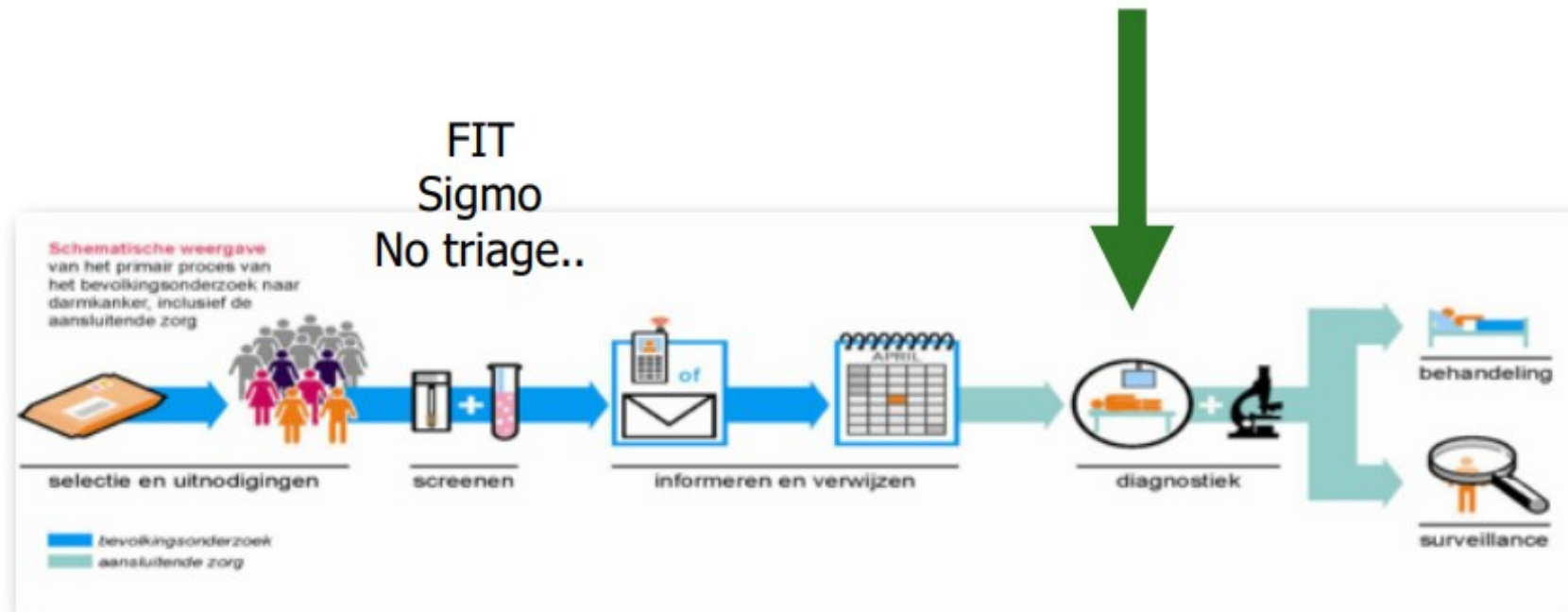


# The New WEO CRC-SC Taskforce on Colonoscopy Quality Assurance: Disseminating best practices worldwide.-

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- **Evelien Dekker AMC, Amsterdam**
- Todos los Programas de screening incluyen Colonoscopia
- No protege 100% (PC-CRC)
- Overdiagnosis & tto de pólipos pequeños y seguimiento
- Invasivo, Carga de trabajo, riesgos...participación
- Costos elevados, Capacidades, sustentabilidad
- Colonoscopia Optima: Detección de todas las lesiones (Pre) Malignas, Buena sensibilidad de diagnostico óptico, Resección completa de lesiones relevantes y seguimiento adecuado,
- Bowles UK Gut 2004. CIR 57% (Cecal Intubation Rate)

# Every screening program: colonoscopy



# Colonoscopy

- Gold standard for detection of CRC
- But not perfect!
  - Not 100% protection for CRC: post-colonoscopy CRCs
  - Overdiagnosis & treatment of small polyps.. surveillance
  - Invasive: burdensome, risks ... participation
  - High costs, issues on capacity, sustainability





# Optimal colonoscopy

Detection of all (pre)malignant lesions

&

Accurate optical diagnosis

&

Complete resection of relevant lesions

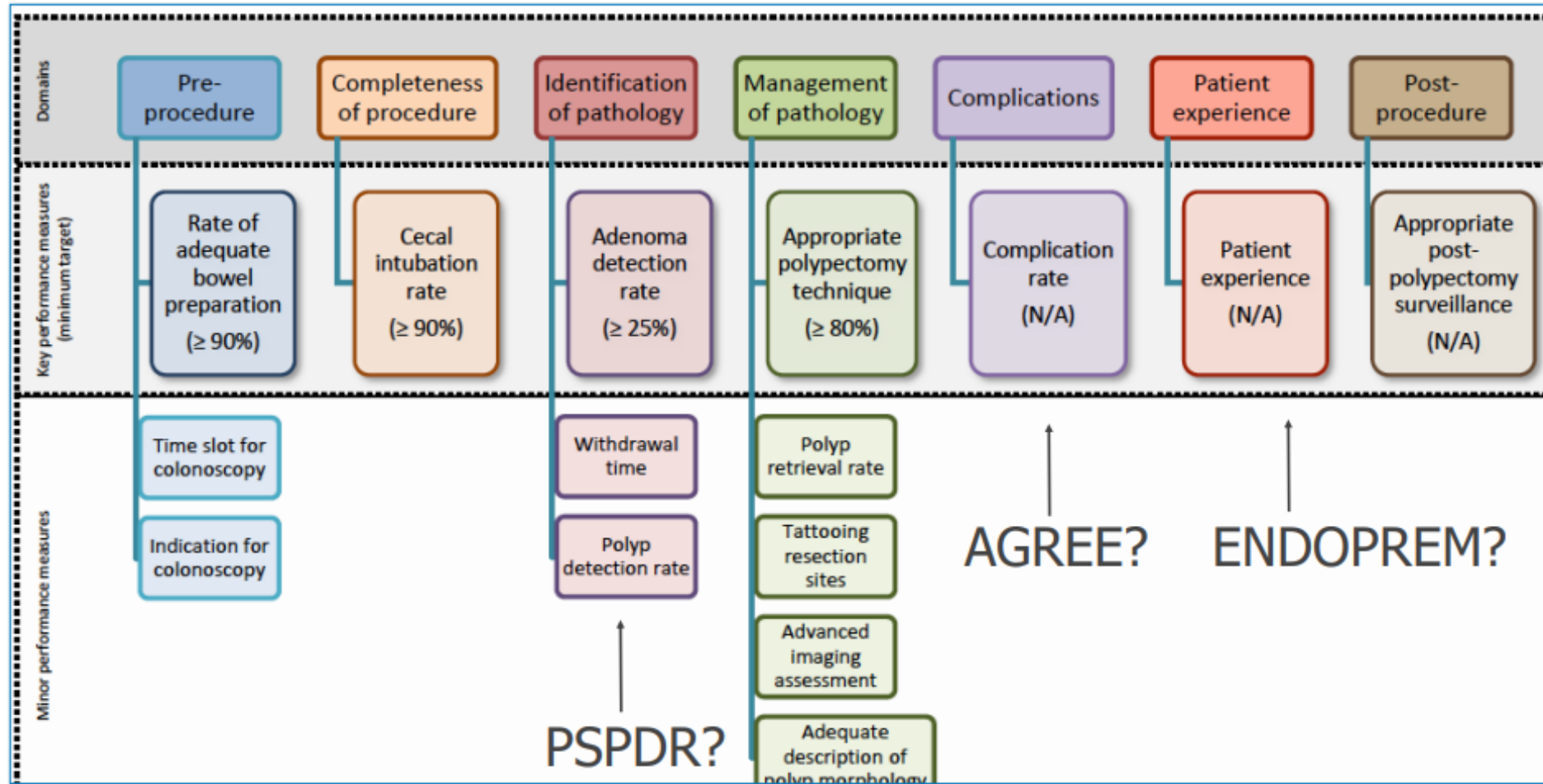
&

Adequate surveillance

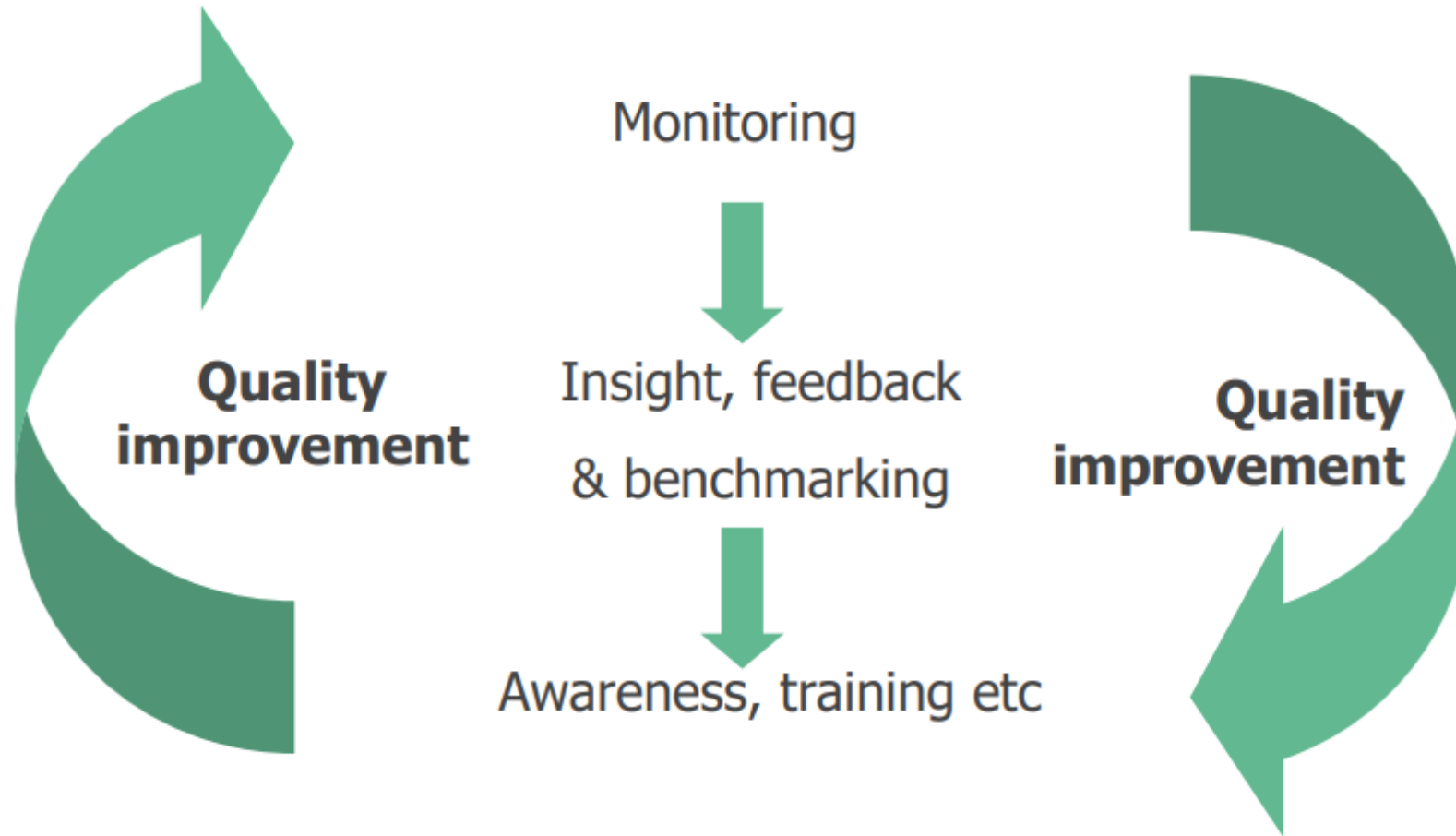
Acceptable & low-risk experience for the patient



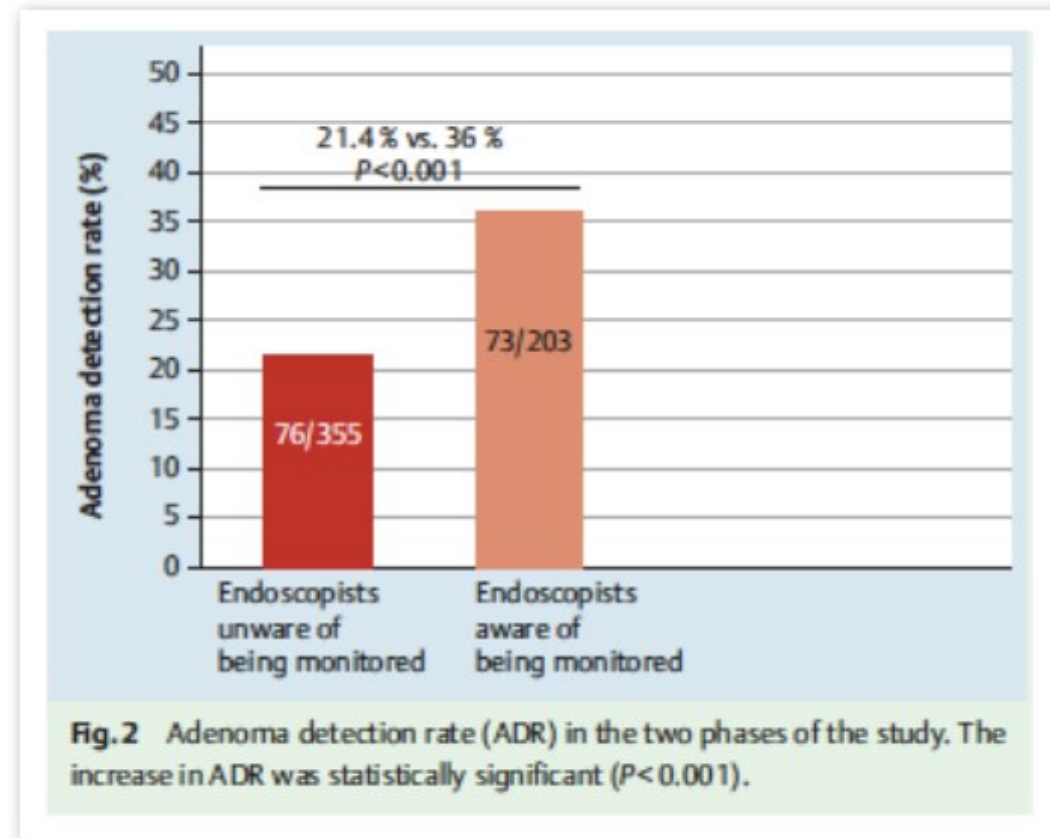
# Quality indicators colonoscopy



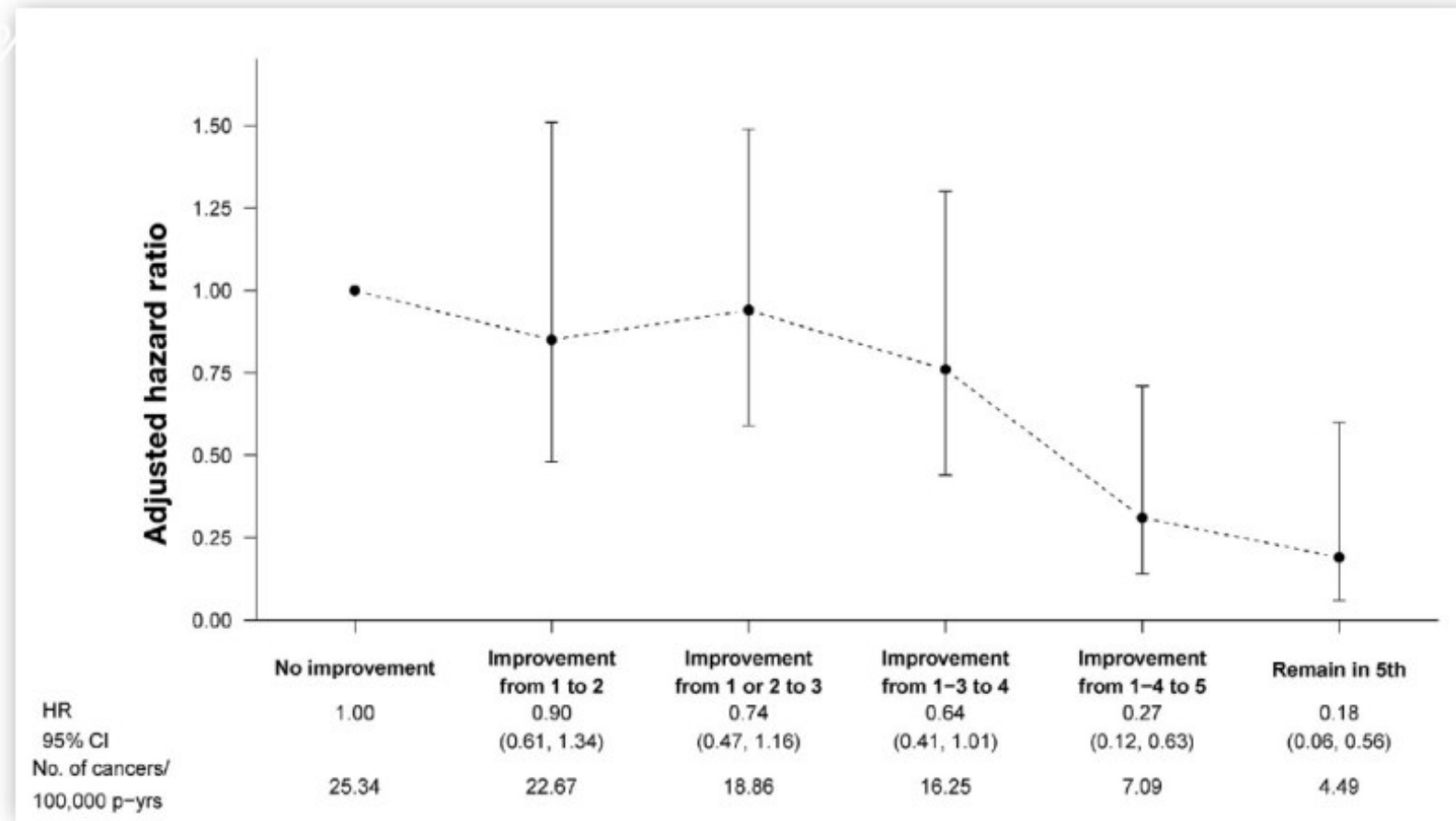
# Monitoring: PDCA cycle



# Awareness of monitoring withdrawal time -> increase in ADR



# Feedback -> improved ADR -> reduced PCCRC



# Interventions to improve ADR

Audit &  
Feedback

↑Bowel  
cleansing

↑Bowel  
distension

Withdrawal  
time

Additional  
training

Advanced  
imaging

Add on  
devices

Artificial  
intelligence



- 
- Mas de 200 colonoscopias año. (mas de 500 en la vida)
  - Parametros de calidad en 100 ultimas endoscopias
  - Ex hands on y videos de 2 polipeptomías
  - Evaluación anual de endoscopistas y centros

# Progress is impossible without change

**George Bernard Shaw**







# Thanks

Roque Sáenz

# Lo mejor de la DDW-2024 Colon y CC

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## Washington DC





# Una Propuesta SIED

10 acciones en **“Green endoscopy”**

Reduciendo nuestra Huella de Carbón

Asadur Tchekmedyan/Roque Sáenz

- 
- La tarea es grande y el trabajo mancomunado y sostenido
  - Es nuestro deber comenzar a caminarlo... y **Ahora**
  - El cambio climático esta aquí y requiere de nuestro cambio.
  - **¿Estamos preparados?**



Uniando la Endoscopia  
de las Américas



# Green Endoscopy



Uniendo la Endoscopia  
de las Américas

# Documento SIED

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- **Objetivo**
- “Producir un documento a ser difundido con sello SIED, con 10 medidas prácticas de acción para mitigar nuestra huella de Carbón en Endoscopia”
- El rol de SIED
- **28 kg CO<sub>2</sub>e/ 1 endoscopia (Otros 31kg)**
  - Joel Lacroute 2023 Endoscopy oct 55 (10) :918-26
  - GIE 3er mayor contaminante.

# 10 Medidas

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- 1.- “El **Cambio Climático** y sus consecuencias (Que están a la vista y ponen en peligro nuestra subsistencia), ha sido generado por la **acción humana.**”
- 2.- “Hacer de la ocupación del Cambio Climático, en la práctica de la Medicina, en especial Gastroenterología y Endoscopia Digestiva, un **Criterio mayor de calidad**”.  
“El primer paso para resolver un problema es **reconocerlo** y ayudar a que se entienda, que **si hay un problema.**”

# 10 Medidas

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- 3.- Hacer difusión de este Asunto Mayor, y expandir su cuidado a todas las Áreas de la salud y de la vida en general. Tener y reconocer líderes y equipos de trabajo en CC.
- Designar de común acuerdo **CHAMPIONS**, de estímulo y auditoría, y un **Core Comité** de trabajo, más un grupo extendido de influencia



# 10 Medidas

- 4.- Realizar acciones de **mayor impacto** en nuestra **Huella de Carbono**.
- **Transporte** y viajes, uso racional de la energía principal o exclusivamente sustentable no contaminante, Evitar combustibles fósiles, Minimizar el gasto energético inútil, la generación de residuos fuera de lo indispensable. Correcta disposición de residuos
- Ahorrar consumo de agua y su desperdicio
- Crear reprocesamiento de aguas.  
**contaminantes**

**Sistemas de transporte no**

# 10 medidas

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- 5.- Realizar estudios con **indicación precisa**, usar alternativas no contaminantes. Controles a distancia cuando sean posibles. (Situaciones clínicas favorables, control de EII, hepatópatas crónicos, celíacos, controles de pacientes crónicos conocidos)
- Evitar endoscopia de control post terapia de Hemorragia digestiva eficiente. Uso racional de CO<sub>2</sub>, agua destilada. Indicaciones precisas de anatomía patológica, uso de fármacos, entre otros

# 10 Medidas

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- 6.- Instar y exigir a proveedores, a tener políticas no contaminantes y sostenibles. Condicionando adquisición al registro de su huella de carbono
- Racionalizar el empaque y desarrollar insumos aptos para el reciclaje y economía circular

# 10 Medidas

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- 7.- Uso de materiales e insumos de endoscopía de menos impacto integral, de generación mínima de residuos y su disposición adecuada. Repensar el “**single use**”.
- Calcular consumo de carbono en nuestra realidad local y las medidas de mayor impacto

# 10 Medidas

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- 8.- Generación local (Paneles solares) y uso de energías limpias. Reconversión de gasto de fósiles en calderas, vehículos (Energías disponibles), control de gasto energético inútil en climatización, iluminación, (Ampolletas de bajo consumo) Interruptores automáticos de prevención de gasto inútil, gasto de papel, tinturas, fármacos, reuniones presenciales, si no son imprescindibles

# 10 Medidas

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- **9.- Reciclar, Reusar, Reducir, Repensar** nuestras acciones bajo perspectiva verde. Ante alternativas, elegir la menos contaminante.

# 10 Medidas

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- 10.- Realizar actividades académicas, docentes, de investigación y de difusión, con criterio “Verde”,
- Establecer metas y auditoría de nuestros resultados. Involucrar en esta tarea a las autoridades locales, médicas y de otros estamentos. Ministerio de Salud, Sociedades científicas Universidades y a **TODOS**





### Upstream activities

- **Medical and non-medical equipment** 
- **Consumables**  
Drugs and medical devices, medical gas production, food supplies and external services of laundry and cleaning 
- **Freight** 
- **Travel**  
Staff and patients 

### Center's activities

- **Energy: electricity** 
- **Energy: gas** 
- **Medical gases** 

### Downstream activities

- **Travel**  
Professionals and patients 
- **Waste** 



- 
- La tarea es grande y el trabajo mancomunado y sostenido
  - Es nuestro deber comenzar a caminarlo... y **Ahora**
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  - **¿Estamos preparados?**



Uniando la Endoscopia  
de las Américas

- 
- **Desmond Tutu,**
  - Nobel de la Paz Sudáfrica, Anglicano
  - ***“We only have one world. If we destroy it, we’re done for”***





# Thanks

Roque Sáenz