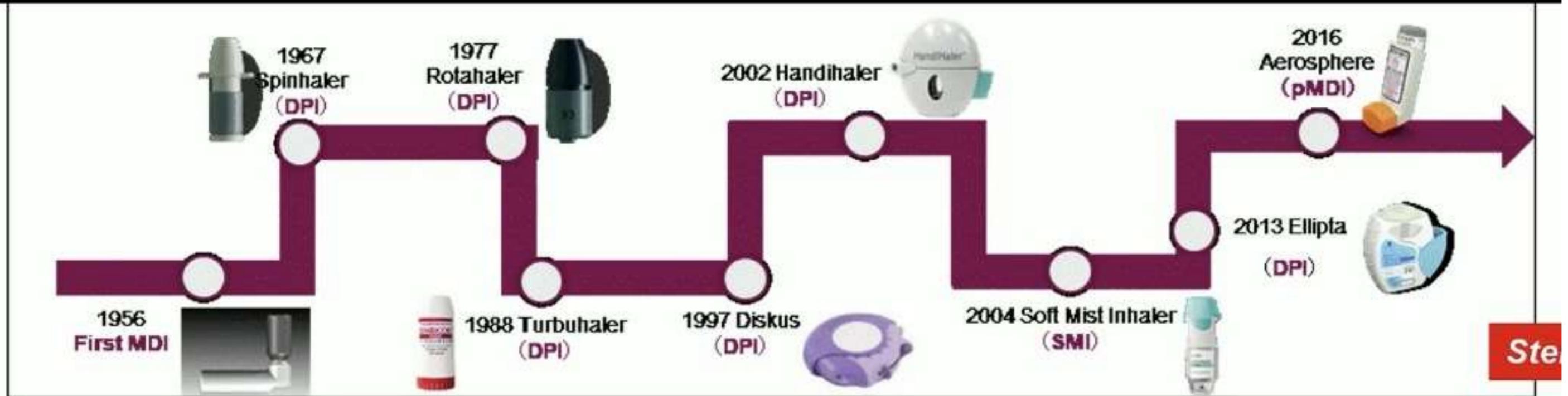


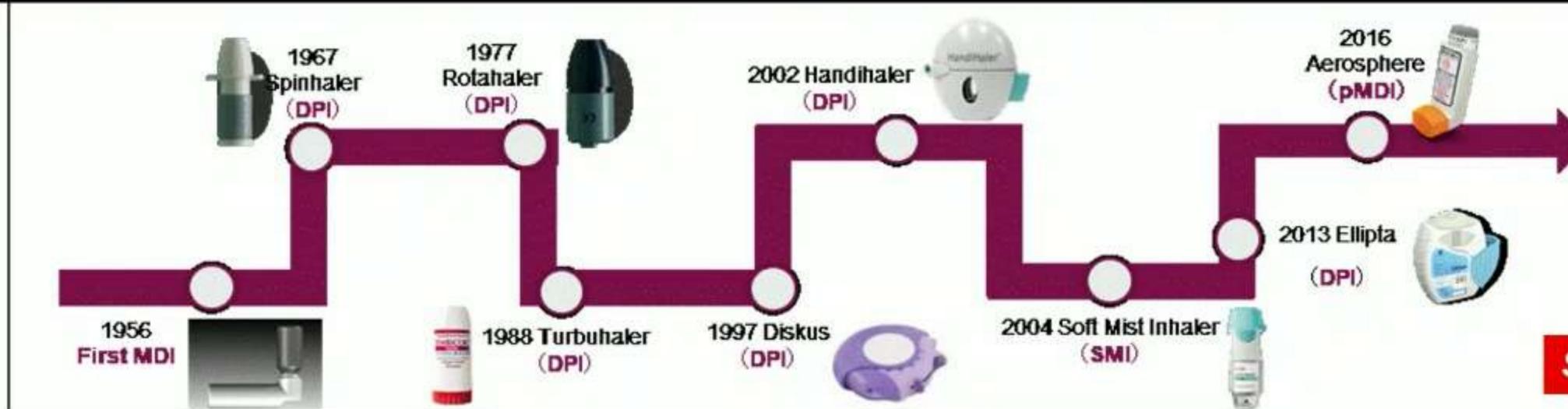
Inhaladores

Dra M S Pilheu

Innovation and Evolution in Inhaler Devices



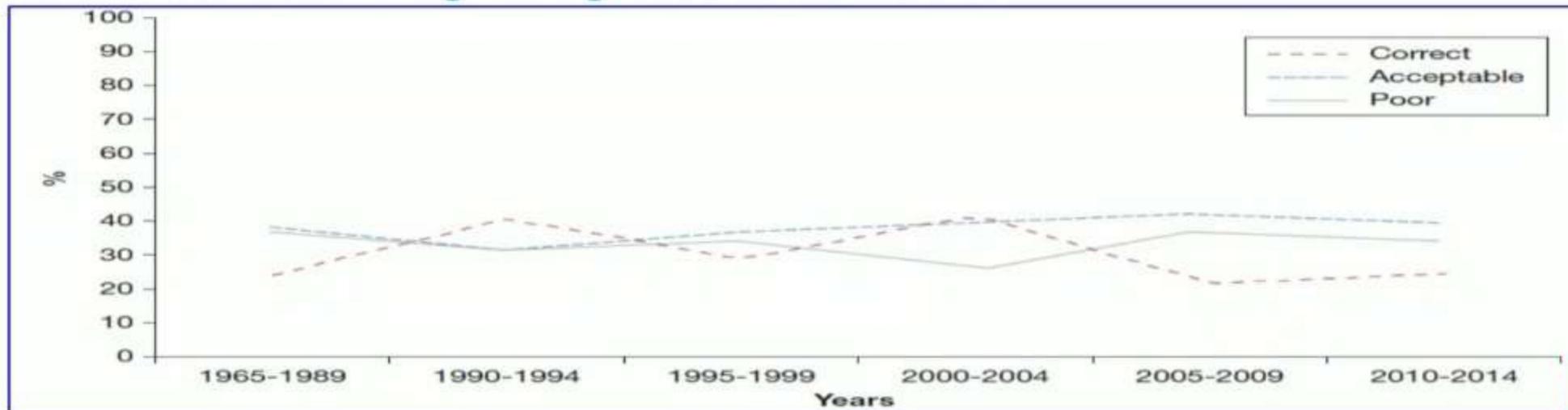
Innovation and Evolution in Inhaler Devices



Stein S, JAMPDD 2017

BUT ... Patient Inhaler Technique Has Not Improved Over Time

Systematic Review of Errors in Inhaler Use  CHEST
Has Patient Technique Improved Over Time?



Sanchis J, CHEST 2016

Los inhaladores NO son considerados parte del tratamiento



Chronic Obstr Pulm Dis. 2018; 5(2): 111–123.

Published online 2018 Apr 1. doi: [10.15326/jcopdf.5.2.2017.0168](https://doi.org/10.15326/jcopdf.5.2.2017.0168)

PMCID: PMC6190525

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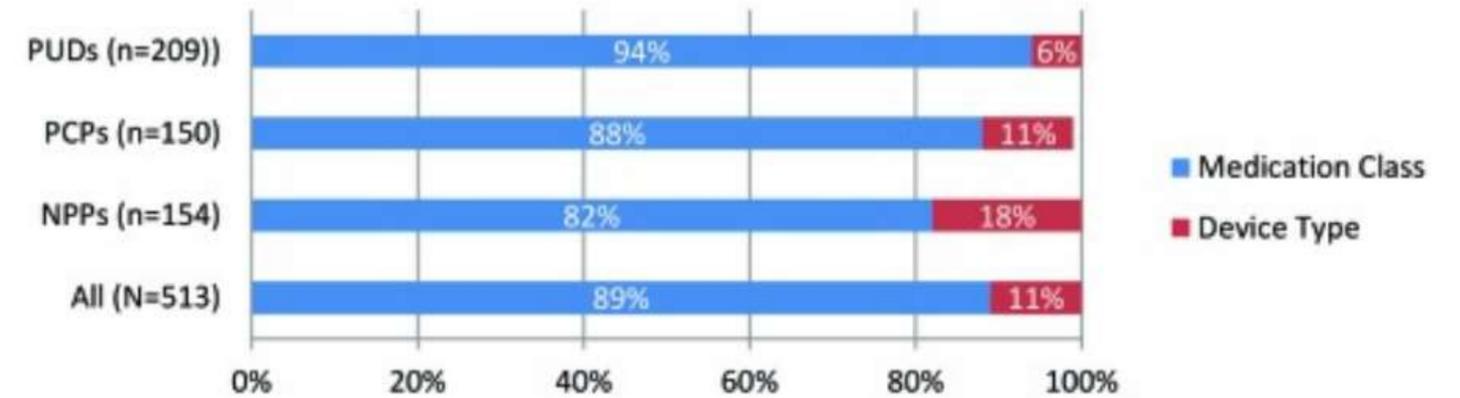
The Role of Inhalation Delivery Devices in COPD: Perspectives of Patients and Health Care Providers

[Nicola A. Hanania, MD, MS](#),¹ [Sidney Braman, MD](#),² [Sandra G. Adams, MD, MS](#),^{3,4} [Ruth Adewuya, MD](#),⁵

[Arzu Ari, PhD](#),⁶ [JoAnn Brooks, PhD](#),⁷ [Donald A. Mahler, MD](#),⁸ [Jill A. Ohar, MD](#),⁹ [Jay Peters, MD](#),³ and

[Shahin Sanjar, PhD](#)¹⁰

a. When you consider prescribing a maintenance medication for a newly diagnosed, stable COPD patient, which is more important in determining which medication to prescribe – medication class or device type?



Los inhaladores NO son considerados parte del tratamiento



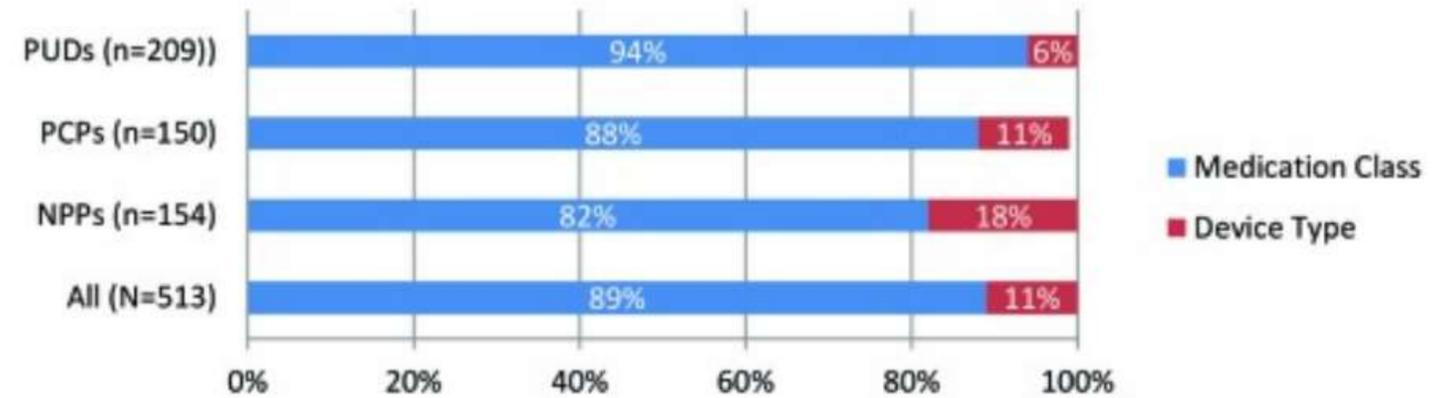
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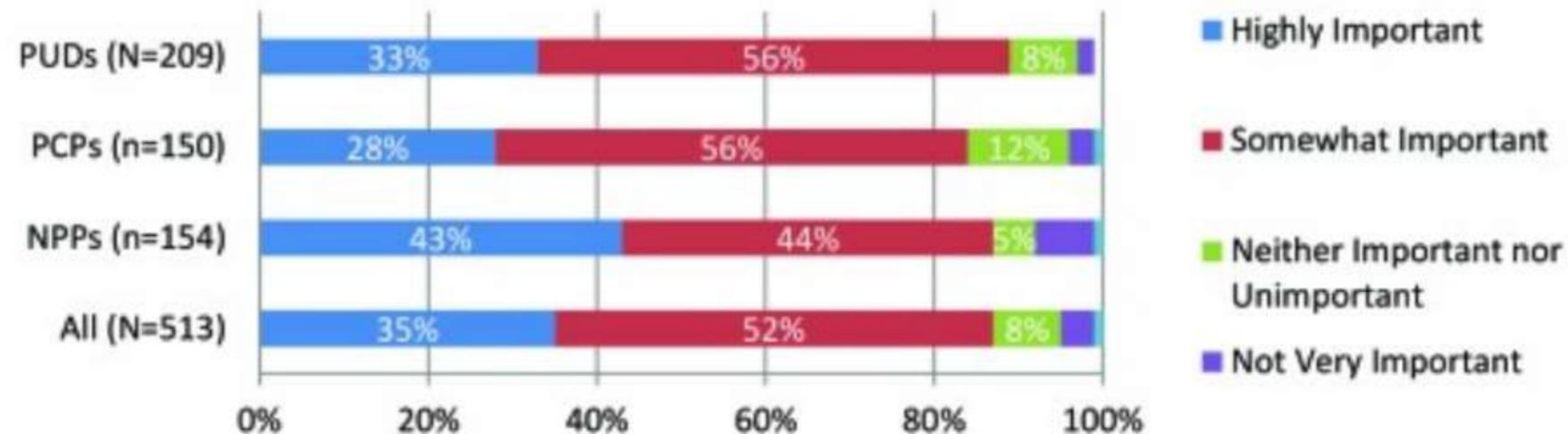
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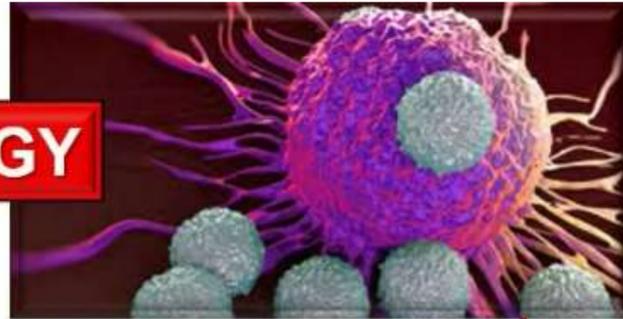


b. How important is the inhalation device in determining which medication you will prescribe to a newly diagnosed, stable COPD patient?



Los médicos NO estamos entrenados

ONCOLOGY



SURGERY



RADIATION



HORMONE
THERAPY



CHEMO
THERAPY



RESPIRATORY



pMDI



DPI



Nebuliser



Spacer

Factores a considerar en la terapia Inhalatoria

TAMAÑO DE LAS
PARTÍCULAS

TÉCNICA DE USO DEL
INHALADOR

ADHERENCIA

FLUJO INSPIRATORIO

Tipos de Inhaladores

Dry powder inhaler (DPI)



Easyhaler®
(reservoir)



Ellipta®
(reservoir)



Breezhaler®
(capsule)

Soft mist inhaler (SMI)



Respimat®

Pressurised metered dose inhaler (pMDI)



Evohaler®
(Traditional/patient-actuated)



Autohaler®
(breath-actuated)



K-haler®
(breath-actuated)

Spacer



AeroChamber Plus®



Volumatic®

DPI

- No se necesita coordinar activación e inspiración
- La inhalación depende de:
 - el esfuerzo inspiratorio del paciente
 - la resistencia del inhalador
- El flujo requerido depende de cada dispositivo

pMDI

- Se debe coordinar activación e inhalación
 - no se requiere en los activados x inhalación
- Se puede agregar espaciador o aerocámara

Laube et al, Eur Respir J 2011; 37: 1308–1331

Levy et al, Adv Ther 2019; 36: 2547–2557

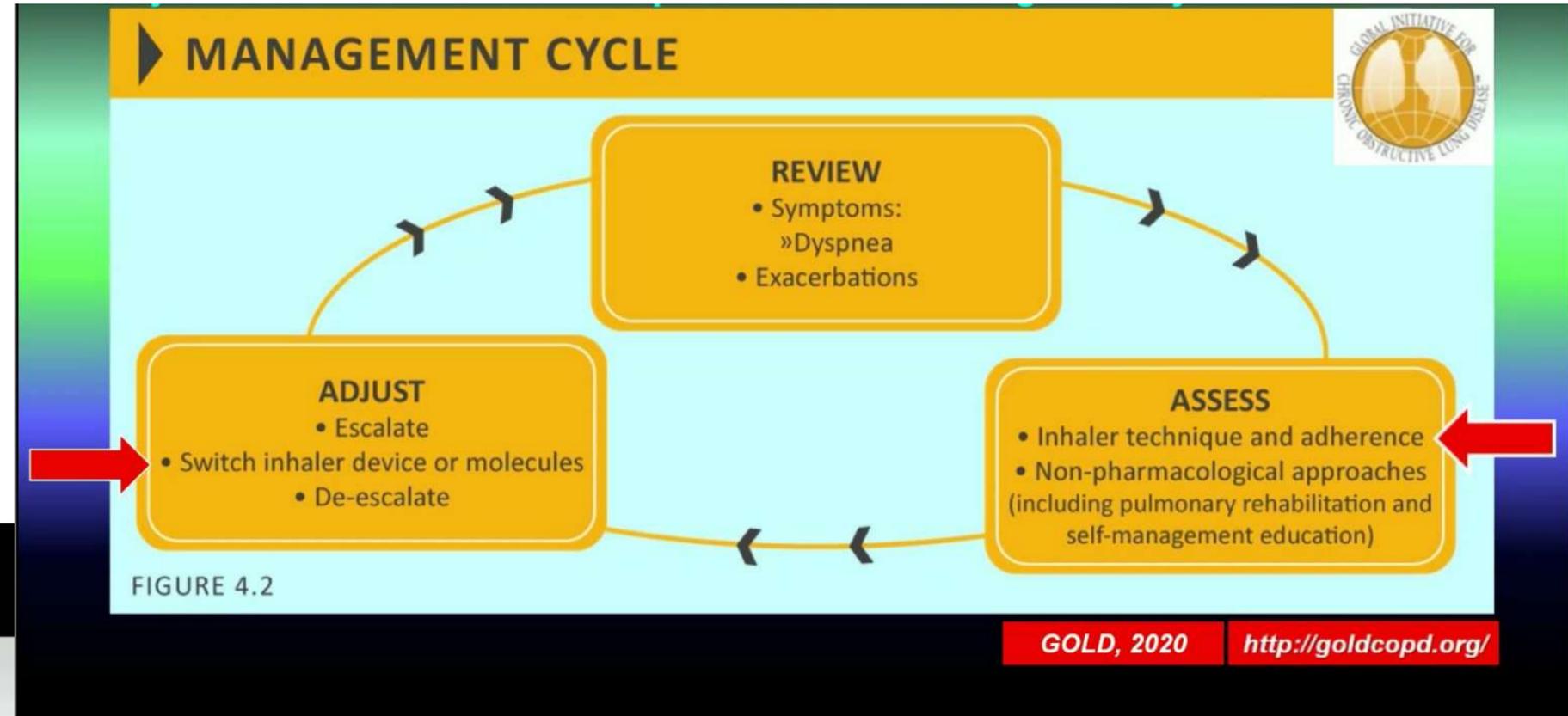
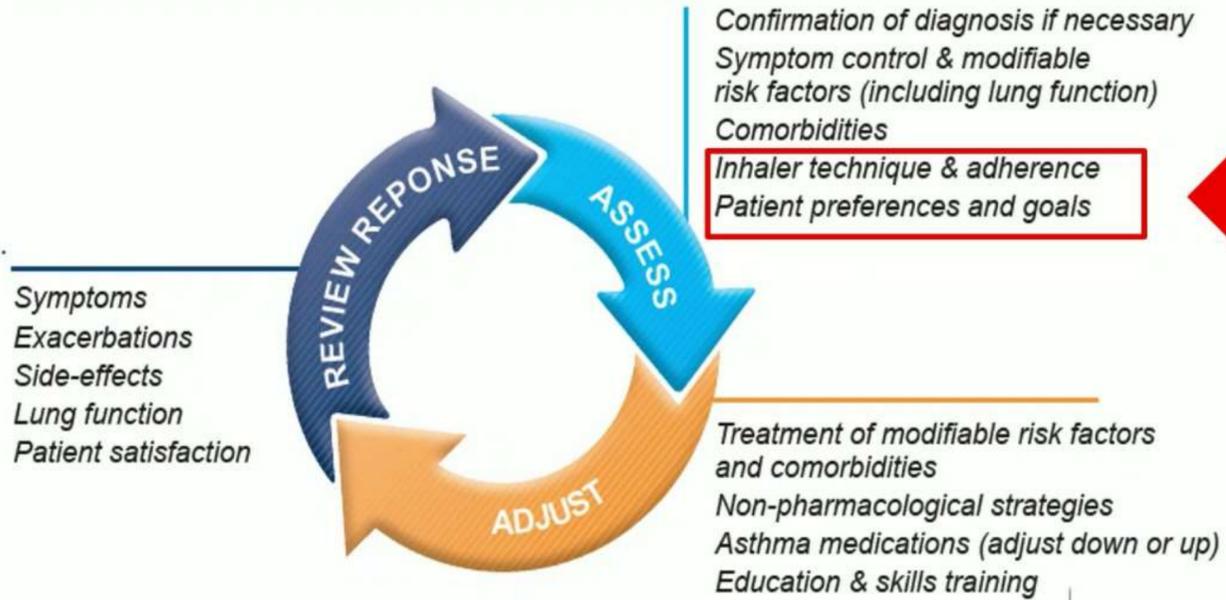
Csonka P, Lehtimäki L. ERJ Open Res 2019;5:00158-02018

Qué considerar al elegir un inhalador?

- Efectivo: que dispense partículas del tamaño adecuado
- Eficiente: sencillo y reproducible su manejo
- Enganing: que el paciente se “enganche”
- a prueba de Errores: para el uso diario
- fácil de Enseñar
- fácil de Enrocar

GINA 2020 – Inhaler Technique

The control-based asthma management cycle



Como elegir el inhalador adecuado

E X 3: EVALUAR, ELEGIR, ENTRENAR

Pedirle al paciente que exhale tranquilo y que eleve el mentón antes de probar cada una de las siguientes maniobras inspiradoras:

Lenta y Sostenida x 3 a 5 segundos

Rápida y Profunda x 2.3 segundos

Si no está seguro considere evaluar con dispositivo

Lenta y Sostenida

pMDI

Rápida y Profunda

DPI

Enseñar - Entrenar

Pragmatic Approach to Choosing an Inhaler Device

Usmani OS et al, www.guidelines.co.uk Sep 2020

7-Steps

Choosing an appropriate inhaler device for the treatment of adults with asthma or COPD

Development Group—Usmani, Capstick, Saleem, Scullion

Seven steps for correct inhaler technique

Review and reinforce inhaler technique every time you see the patient

1. Preparation:

- check dose counter (where present)
- shake inhaler, if applicable

2. Priming:

- prime the device ready for use
- open inhaler/remove cap

3. Exhaling:

- exhale gently away from the mouthpiece

4. Mouth:

- place mouthpiece in mouth, tilt the chin, and close lips around the mouthpiece to form a tight seal

5. Inhalation:

- slow and steady—pMDI/SMI/BAI
- quick and deep—DPI

Inhale **SLOW**
and **STEADY**

Inhale **QUICK**
and **DEEP**

6. Breath holding:

- remove inhaler from mouth and hold breath for up to 5 seconds

7. Closing and repeating:

- close inhaler/replace cap
- repeat as necessary.

Select required drug once inhaler device has been chosen, in line with local formulary

If you and the patient are both happy, prescribe the drug and device

Tips prácticos

- NO cambiar el inhalador sin discutirlo con el paciente
- NO sumar más de un tipo de dispositivo (en lo posible)
- Rechequear la técnica de uso en cada visita
- Entrenarse a uno mismo
 - <https://www.asthma.org.uk/advice/inhaler-videos/>

GRACIAS!!!

@neumosalo