



# GINA：全球氣喘治療策略觀 與 台灣氣喘照護建議

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basement membrane

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Ma

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- E
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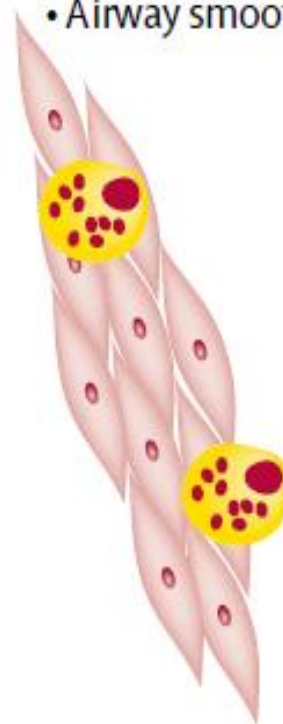
Pollutants,  
oxidative stress

Pollutants

## Non-eosinophilic asthma

### Paucigranulocytic

- Eosinophil –
- Neutrophil –
- Epithelial damage +
- Mucus +/-
- Reticular basement membrane thickening +/-
- Airway smooth muscle mass +



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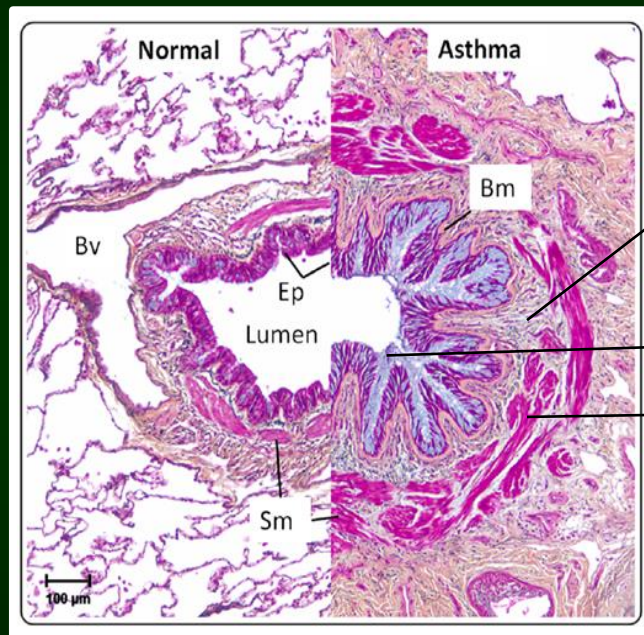
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# Inflammation is central to symptoms and exacerbations<sup>1</sup>

## Healthy versus severe asthmatic airway<sup>2</sup>

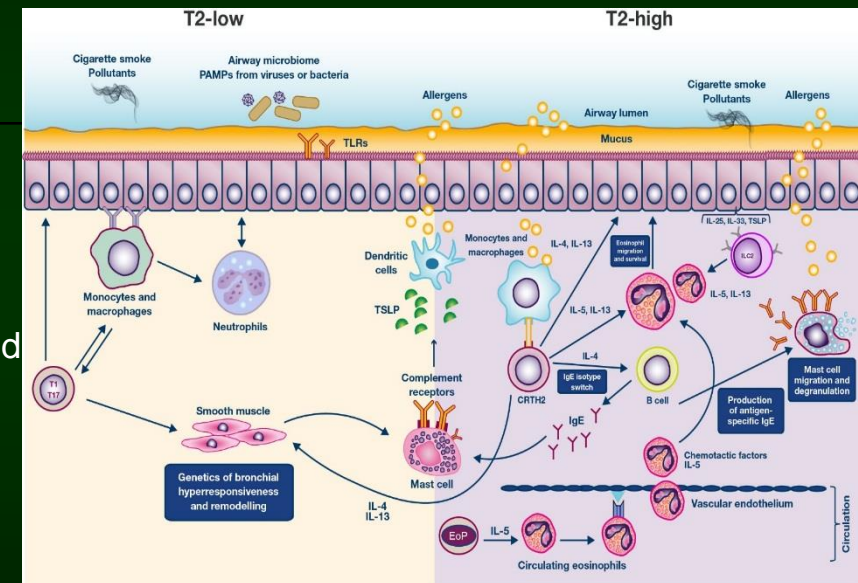


INFLAMMATION



Mucus hypersecretion  
Smooth muscle thickened

## Key inflammatory pathways in asthma<sup>3-5</sup>



Bm = basement membrane; Bv = blood vessel; CRTH2 = chemoattractant receptor-homologous molecule expressed on Th2 cells; EoP = eosinophilopoiesis; Ep = epithelium; IgE = immunoglobulin E; IL = interleukin; ILC2 = type 2 innate lymphoid cells; SM = smooth muscle; T1 = Type 1 cell; T2 = Type 2 cell; T17 = Type 17 cell; TLR = toll-like receptor; TSLP = thymic stromal lymphopoietin.

1. Global Initiative for Asthma. 2019 GINA Report, Global Strategy for Asthma Management and Prevention. <http://www.ginasthma.org>. Accessed 12 June 2019; 2. Holgate ST, et al. *Nat Rev Dis Primers*. 2015;1:15025; 3. Wenzel SE. *Nat Med*. 2012;18:716-725; 4. Peters SP, et al. *J Allergy Clin Immunol Pract*. 2017;5:S15-S24; 5. Mukherjee M, et al. *World Allergy Organ J*. 2014;7:32.

# SABA過度使用是全球性的氣喘問題

**SABINA program** 是目前針對**SABA**使用最大的真實世界觀察性研究<sup>1</sup>：



**SABINA**

- 每年使用  $\geq 3$ 支以上**SABA** 與 氣喘惡化風險相關<sup>2-4</sup>
- 無論在哪個國家、氣喘嚴重程度、ICS的治療如何，**SABA**過度使用都是普遍存在的問題<sup>2-4</sup>

~40%

的病患被處方  
 $\geq 3$ 支以上**SABA** /年



在輕、中、重度的氣喘病患

↑ 32%

氣喘惡化風險<sup>5</sup>  
 $\geq 3$ 支以上**SABA**/年 vs 1-2支**SABA**/年

Adjusted IRR 95% CI, 1,21 [1.18, 1.49] among GINA 2-5 patients with  $\geq 50\%$  annual coverage of ICS-containing therapies

無論病患是否使用ICS...



# GINA 2019 – landmark changes in asthma management



- For safety, GINA no longer recommends SABA-only treatment for Step 1 in adults and adolescents
  - This decision was based on evidence that SABA-only treatment increases the risk of severe exacerbations, and that adding any ICS significantly reduces the risk
- GINA now recommends that all adults and adolescents with asthma should receive ICS-containing controller treatment, to reduce the risk of serious exacerbations
  - The ICS can be delivered by regular daily treatment or, in mild asthma, by as-needed low dose ICS-formoterol
- This is a population-level risk reduction strategy
  - Other examples: statins, anti-hypertensives
  - The aim is to reduce the probability of serious adverse outcomes at a population level
  - Individual patients may not necessarily experience (or be aware of) short-term clinical benefit



# Background - the risks of SABA-only treatment



- Regular use of SABA, even for 1–2 weeks, is associated with adverse effects
  - $\beta$ -receptor downregulation, decreased bronchoprotection, rebound hyperresponsiveness, decreased bronchodilator response (*Hancox, Respir Med 2000*); increased allergic response, and increased eosinophilic airway inflammation (*Aldridge, AJRCCM 2000*)
- Higher use of SABA is associated with adverse clinical outcomes
  - Dispensing of  $\geq 3$  canisters per year (i.e. daily use) is associated with higher risk of severe exacerbations (*Stanford, AAAI 2012; Nwaru, ERJ 2021*)
  - Dispensing of  $\geq 12$  canisters per year is associated with much higher risk of death (*Suissa, AJRCCM 1994; Nwaru, ERJ 2021*)
- Inhaled corticosteroids reduce the risk of asthma deaths, hospitalization and exacerbations requiring oral corticosteroids (OCS) (*Suissa, NEJM 2000 & 2002; Pauwels, Lancet 2003*)
  - BUT adherence is poor, particularly in patients with mild or infrequent symptoms
- A safe and effective alternative was needed for mild asthma



# The GINA 2021 treatment figure for adults and adolescents

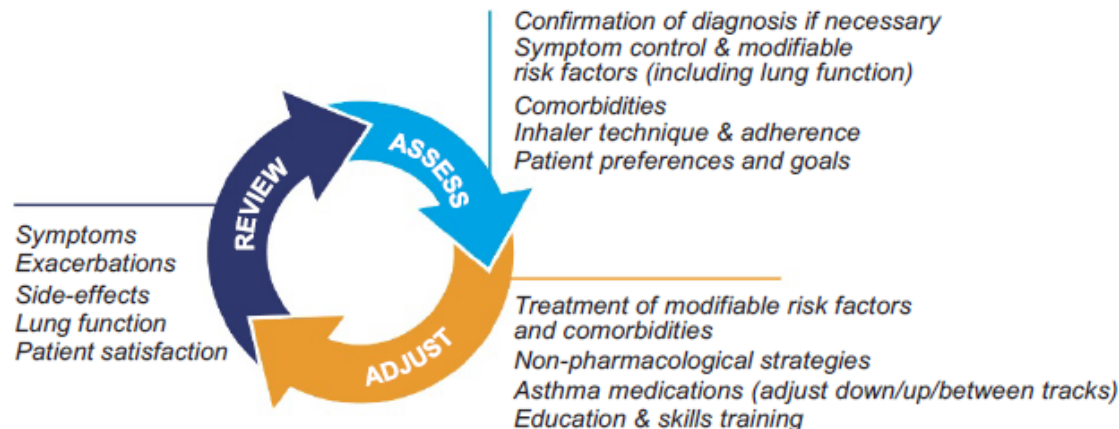


- For clarity, the GINA treatment figure now shows two ‘tracks’, based on evidence about outcomes with the two reliever choices across asthma severity
- **Track 1, with low dose ICS-formoterol as the reliever, is the preferred approach**
  - Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever, with similar symptom control and similar lung function
- **Track 2, with SABA as the reliever, is an alternative approach**
  - Use this if Track 1 is not possible, or is not preferred by a patient with no exacerbations on their current controller therapy
  - Before considering a regimen with SABA reliever, consider whether the patient is likely to be adherent with daily controller – if not, they will be exposed to the risks of SABA-only treatment
- Treatment may be stepped up or down within a track using the same reliever at each step, or switched between tracks, according to the patient’s needs and preferences

# Adults & adolescents 12+ years

## Personalized asthma management

Assess, Adjust, Review  
for individual patient needs



### CONTROLLER and PREFERRED RELIEVER

(Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever

#### STEPS 1 – 2

As-needed low dose ICS-formoterol

#### STEP 3

Low dose maintenance ICS-formoterol

#### STEP 4

Medium dose maintenance ICS-formoterol

#### STEP 5

Add-on LAMA  
Refer for phenotypic assessment ± anti-IgE, anti-IL5/5R, anti-IL4R  
Consider high dose ICS-formoterol

RELIEVER: As-needed low-dose ICS-formoterol

### CONTROLLER and ALTERNATIVE RELIEVER

(Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller

#### STEP 1

Take ICS whenever SABA taken

#### STEP 2

Low dose maintenance ICS

#### STEP 3

Low dose maintenance ICS-LABA

#### STEP 4

Medium/high dose maintenance ICS-LABA

#### STEP 5

Add-on LAMA  
Refer for phenotypic assessment ± anti-IgE, anti-IL5/5R, anti-IL4R  
Consider high dose ICS-LABA

RELIEVER: As-needed short-acting β2-agonist

Other controller options  
for either track

Low dose ICS whenever SABA taken, or daily LTRA, or add HDM SLIT

Medium dose ICS, or add LTRA, or add HDM SLIT

Add LAMA or LTRA, or switch to high dose ICS

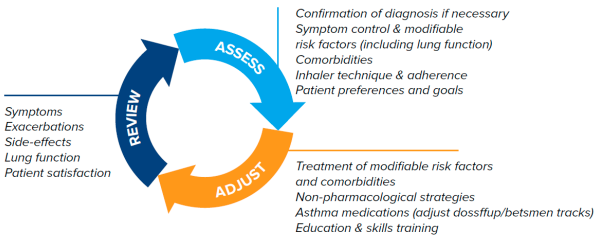
Add azithromycin (adults) or LTRA; add low dose OCS but consider side-effects



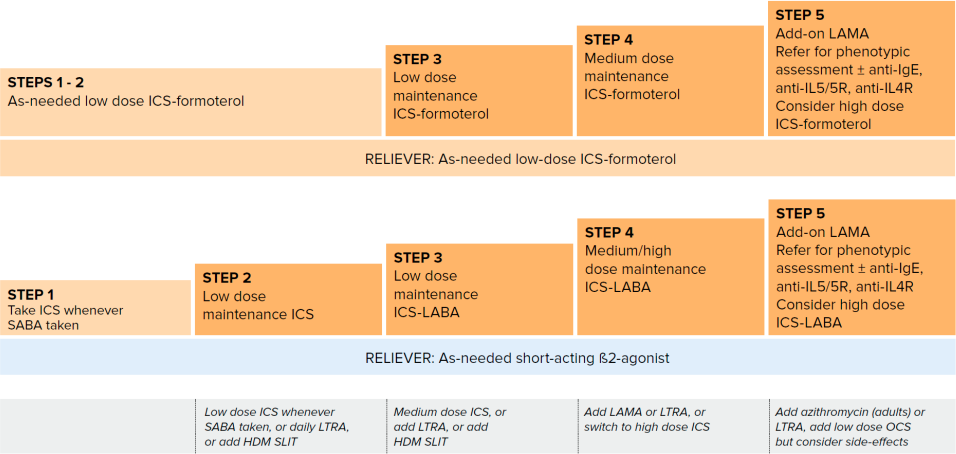
# GINA 2021 為何改版？

## The GINA asthma treatment strategy

**Adults & adolescents  
12+ years**  
**Personalized asthma management**  
Assess, Adjust, Review  
for individual patient needs



**CONTROLLER** and **PREFERRED RELIEVER**  
(Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever



1. 強化個人化治療，降低以SABA為緩解療法的治療風險。
2. 以證據為導向，建議ICS/Formoterol緩解與維持療法為所有嚴重程度氣喘病患首選。

# GINA 2021：以緩解療法劃分的治療策略

全面建議所有氣喘嚴重程度，以 **ICS/Formoterol 緩解與維持療法** 為治療首選<sup>1</sup>

## GINA 2020<sup>2</sup>

The GINA asthma treatment strategy

Adults & adolescents 12+ years

**Personalised asthma management:**  
Assess, Adjust, Review response

REVIEW RESPONSE

- Symptoms
- Exacerbations
- Side-effects
- Lung function
- Patient satisfaction



**ASSESS**

- Confirmation of diagnosis if necessary
- Symptom control & modifiable risk factors (including lung function)
- Comorbidities
- Inhaler technique & adherence
- Patient preferences and goals

**ADJUST**

- Treatment of modifiable risk factors & comorbidities
- Non-pharmacological strategies
- Asthma medications (adjust down or up)
- Education & skills training

**Asthma medication options:**  
Adjust treatment up and down for individual patient needs

**PREFERRED CONTROLLER**  
to prevent exacerbations and control symptoms

Other controller options

**PREFERRED RELIEVER**  
Other reliever option



\* Data only with budesonide-formoterol (bud-form)

\* Separate or combination ICS and SABA inhalers

<sup>†</sup> Low-dose ICS-form is the reliever for patients prescribed bud-form or BDP-form maintenance and reliever therapy

<sup>§</sup> Consider adding HDM SLIT for sensitised patients with allergic rhinitis and FEV<sub>1</sub> >70% predicted

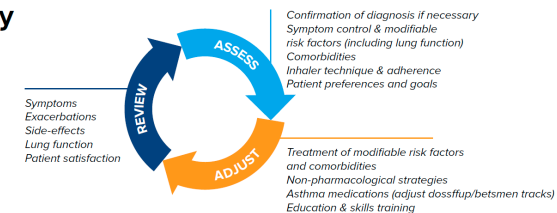
## GINA 2021

The GINA asthma treatment strategy

Adults & adolescents 12+ years

**Personalized asthma management**

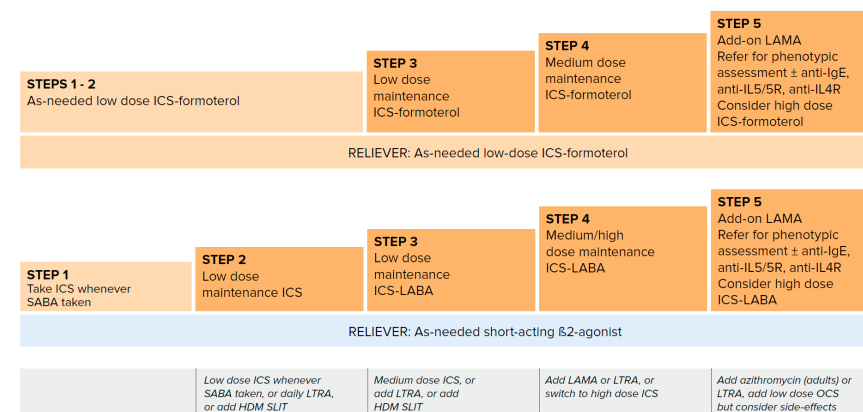
Assess, Adjust, Review for individual patient needs



**CONTROLLER and PREFERRED RELIEVER**  
(Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever

**CONTROLLER and ALTERNATIVE RELIEVER**  
(Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller

Other controller options for either track





# 治療首選：Track 1 – ICS/Formoterol為緩解療法的治療策略

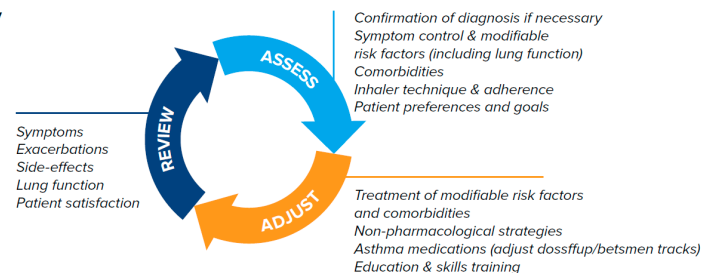
抗發炎緩解療法相較於SABA作為緩解吸入劑，可有效減少氣喘惡化風險<sup>1</sup>

維持(Controller)與首選緩解療法  
(Preferred reliever)：

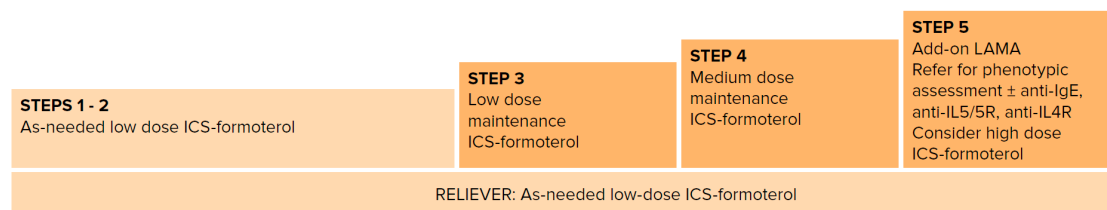
將ICS/Formoterol作為緩解療法相較於使用SABA，可有效減少氣喘惡化風險。

## The GINA asthma treatment strategy

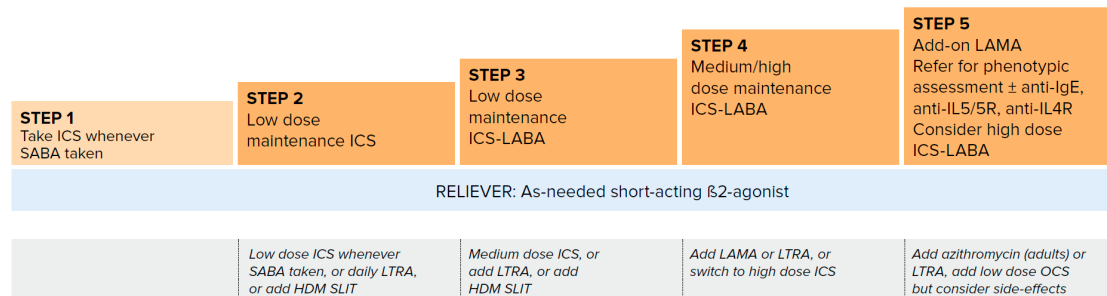
**Adults & adolescents  
12+ years**  
**Personalized asthma management**  
Assess, Adjust, Review  
for individual patient needs



**CONTROLLER and PREFERRED RELIEVER**  
(Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever



**CONTROLLER and ALTERNATIVE RELIEVER**  
(Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller



# Track 2 – SABA為緩解療法的治療策略

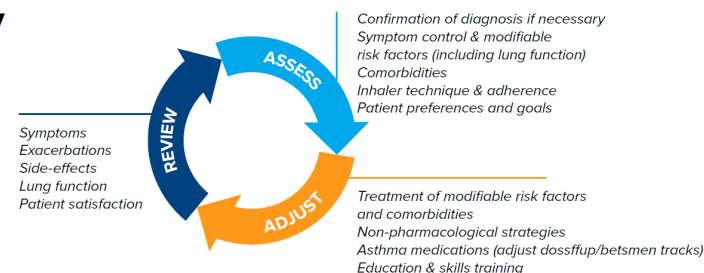
只有在確認氣喘患者的對Controller醫囑順從性高時，才考量使用SABA為緩解吸入劑<sup>1</sup>

## 維持(Controller)與替代緩解療法 (Alternative reliever)：

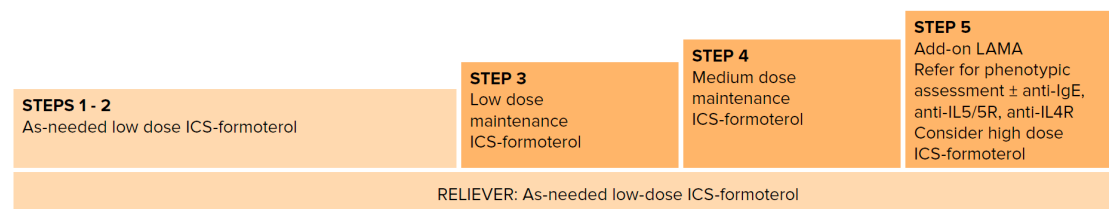
1. 唯有Track 1無法施行時，才考慮使用Track 2為替代療法。
2. 唯有當無氣喘惡化風險的病患，不願意使用Track 1時。
3. 確認氣喘患者對於Controller 的順從性高時。

### The GINA asthma treatment strategy

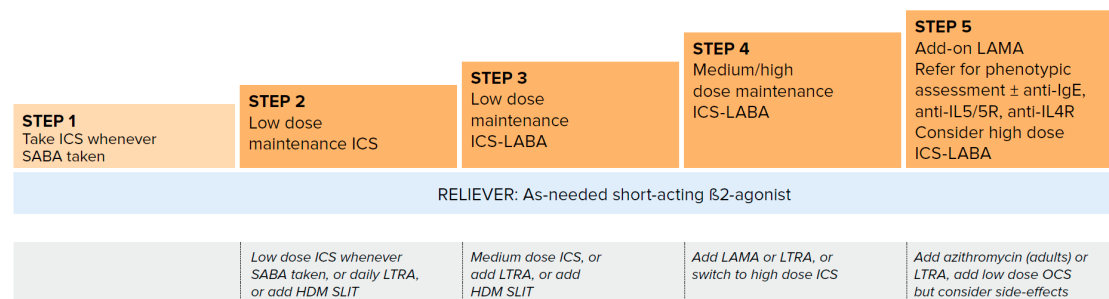
**Adults & adolescents  
12+ years**  
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Assess, Adjust, Review  
for individual patient needs



**CONTROLLER and PREFERRED RELIEVER**  
(Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever



**CONTROLLER and ALTERNATIVE RELIEVER**  
(Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller





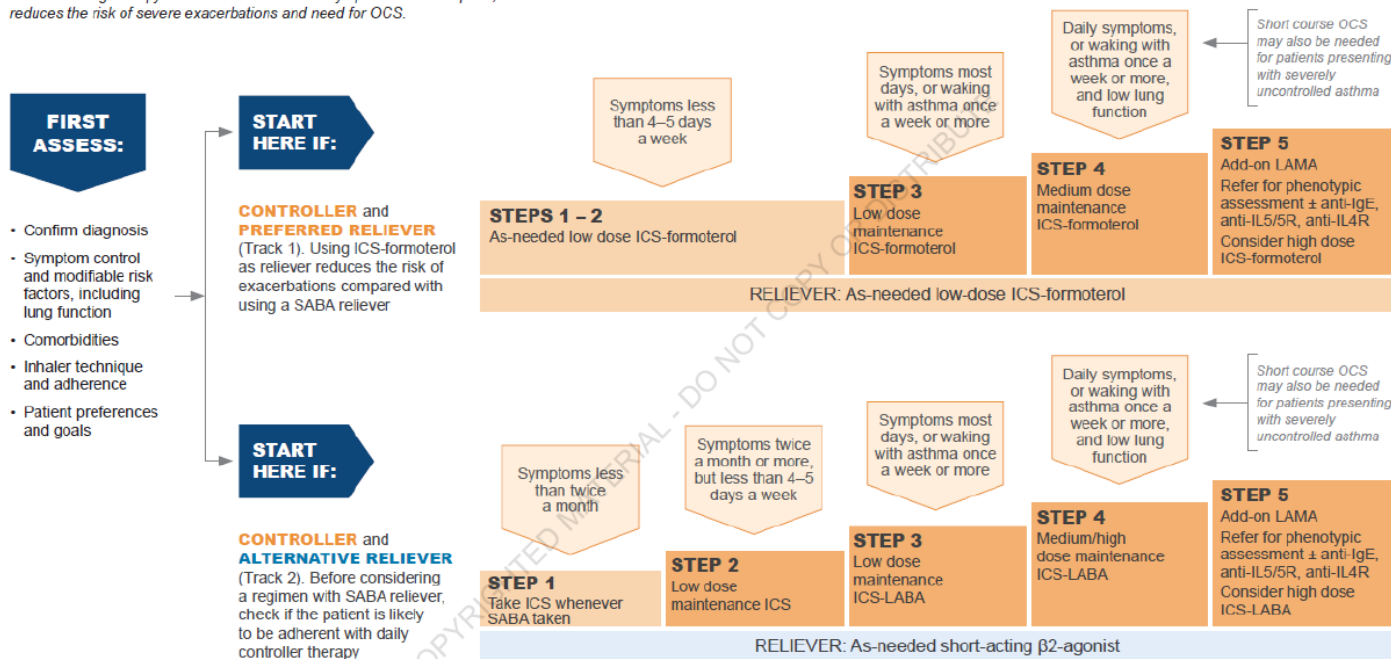
# 成人氣喘起始治療(Start treatment)建議 (≥12歲之青少年及成人)

考量病患的順從性，建議以抗發炎緩解與維持療法為起始治療以減少疾病惡化風險<sup>1</sup>

## STARTING TREATMENT

in adults and adolescents with a diagnosis of asthma

Track 1 is preferred if the patient is likely to be poorly adherent with daily controller ICS-containing therapy is recommended even if symptoms are infrequent, as it reduces the risk of severe exacerbations and need for OCS.

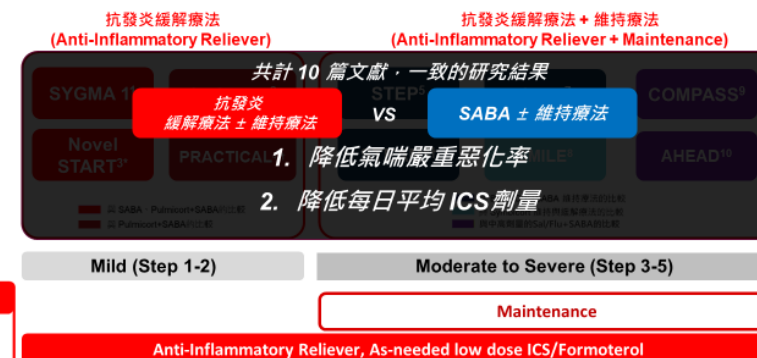


## STARTING TREATMENT

in adults and adolescents with a diagnosis of asthma

Track 1 is preferred if the patient is likely to be poorly adherent with daily controller ICS-containing therapy is recommended even if symptoms are infrequent, as it reduces the risk of severe exacerbations and need for OCS.

建議以治療策略1 (Track 1)為起始治療，因可減少氣喘嚴重惡化的風險及使用口服類固醇(OCS)的需求。

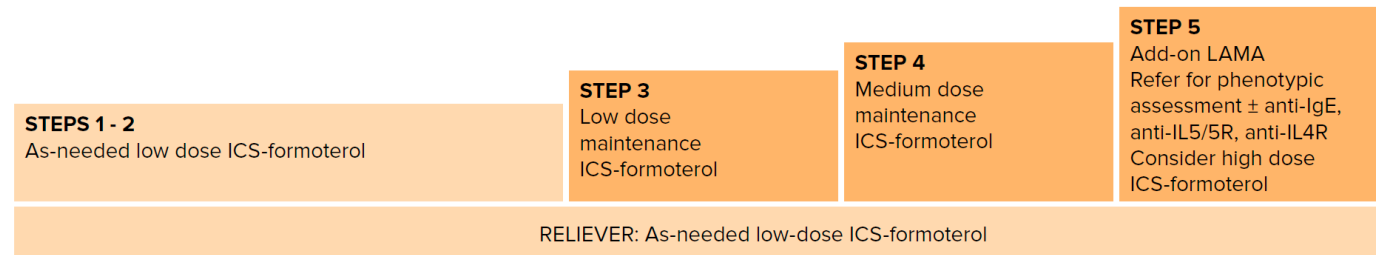


# 針對Step 4，在考慮加上LAMA前，應確認病患之ICS劑量足夠

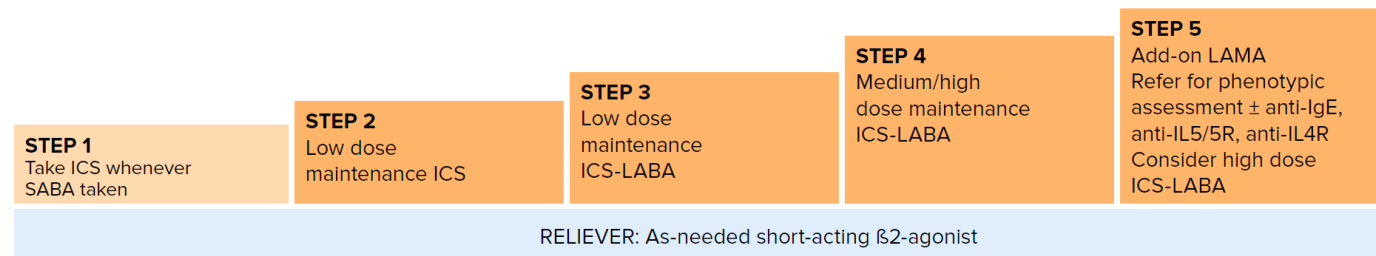
病患需確認至少以 中劑量ICS治療 或 嘗試使用ICS/Formoterol緩解與維持療法 (Track 1)<sup>1</sup>

*Other Step 4 controller options for adults and adolescents* include add-on LAMA for patients  $\geq 18$  years ( $\geq 6$  years for tiotropium by mist haler) in separate or combination ('triple') inhalers. This modestly improves lung function, and sometimes exacerbations, but not symptoms. Before considering add-on LAMA for patients with exacerbations, increase ICS dose to at least medium, or switch to maintenance and reliever therapy. For adult patients with rhinitis and asthma who are allergic to house dust mite, consider adding SLIT, provided FEV<sub>1</sub> is  $>70\%$  predicted.

**CONTROLLER and PREFERRED RELIEVER** (Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever



**CONTROLLER and ALTERNATIVE RELIEVER** (Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller



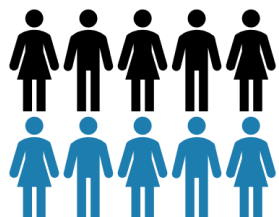
Other controller options for either track

	Low dose ICS whenever SABA taken, or daily LTRA, or add HDM SLIT	Medium dose ICS, or add LTRA, or add HDM SLIT	Add LAMA or LTRA, or switch to high dose ICS	Add azithromycin (adults) or LTRA, add low dose OCS but consider side-effects
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# 如何辨認氣喘患者的醫囑性？<sup>1</sup>

>50% 不乖乖  
用藥



低醫囑性



• 症狀  
• 惡化

如何辨認氣喘患者的醫囑性？

- 詢問病患對於氣喘或處方藥物的態度與想法<sup>1</sup> (RRT, 短效急救吸入劑依賴評估測驗<sup>2</sup>)
- 同理的問題<sup>1</sup> 如：大部分的病人都不會按照處方用藥。在過去四週，平均一週有幾天會用藥？
- 確認用藥次數<sup>1</sup> (開立日期、剩餘次數、領藥紀錄)

# GINA 2021 & 氣喘治療 Summary



## 積極降低SABA 所帶來的風險

- SABA治療與增加惡化風險及肺功能的下降相關聯
- >50%病患為低醫囑性

急救吸入劑依賴評估測驗

一、您對於急救吸入劑的看法

1 使用急救吸入劑來治療氣喘症狀是保持氣喘控制的最好方法。

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

2 當隨身攜帶急救吸入劑時，我不擔心氣喘。

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

3 我覺得急救吸入劑，是致在治療氣喘上唯一可以依賴的藥物。

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

4 使用急救吸入劑所帶來的好處遠超過所帶來的風險。

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

5 相較於含有類固醇的維持療法藥物，我更喜歡依賴我的急救吸入劑。

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

第1-5題，加總共 分

二、使用急救吸入劑的頻率

1 請選擇最符合您目前現況的答案，並於題目最後的格子填入分數。

2 請和您的醫師、護理師或藥師分享您的分數。

過去四週您平均使用急救吸入劑的頻率為何？

① 從未使用 ② 每週少於2次 ③ 每週3次 ④ 每週4-5次 ⑤ 每週5次以上

分

【此問卷並非治療建議，請諮詢醫師或專業醫護人員，請不要隨意停止或更改您的用藥。】

ACTHON  
BOAT  
CARE

SPCNC

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## 遵醫囑性的辨認

- 詢問對於氣喘或處方藥物的想法 (RRT)
- 同理的問題 & 確認用藥次數



## 所有氣喘嚴重程度 建議首選 ICS/Formoterol 緩解與維持療法

- 相較含SABA治療模式，可有效減少氣喘惡化風險
- 唯一臨床研究證實可作為抗發炎緩解療法

# Asthma severity – severe asthma



- To avoid confusion, the definition of severe asthma has been reworded without reference to GINA steps, as these have changed over time
- Severe asthma is asthma that remains uncontrolled despite optimized treatment with high dose ICS-LABA, or that requires high dose ICS-LABA to prevent it from becoming uncontrolled



# Add-on long-acting muscarinic antagonists (LAMA)



- Step 5 recommendations for add-on LAMA have been expanded to include combination ICS-LABA-LAMA, if asthma is persistently uncontrolled despite ICS-LABA
  - Add-on tiotropium in separate inhaler (ages  $\geq 6$  years)
  - Triple combinations (ages  $\geq 18$  years): beclometasone-formoterol-glycopyrronium; fluticasone furoate-vilanterol-umeclidinium; mometasone-indacaterol-glycopyrronium
- Lung function:
  - Adding LAMA to medium or high dose ICS-LABA modestly improves lung function (Evidence A) but not symptoms
- Severe exacerbations
  - In some studies, add-on LAMA modestly increased the time to severe exacerbation requiring OCS (Evidence B)
  - For patients with exacerbations, it is important to ensure that the patient receives sufficient ICS, i.e. at least medium dose ICS-LABA, before considering adding a LAMA

ICS: inhaled corticosteroids; LABA: long-acting beta<sub>2</sub>-agonist; LAMA: long-acting muscarinic antagonist; OCS: oral corticosteroids

# Add-on azithromycin



- Add-on azithromycin three days a week has been confirmed as an option for consideration after specialist referral
  - Significantly reduces exacerbations in patients taking high dose ICS-LABA
  - Significantly reduces exacerbations in patients with eosinophilic or non-eosinophilic asthma
  - No specific evidence published for azithromycin in patients taking medium dose ICS-LABA (*Hiles et al, ERJ 2019*)
- Before considering add-on azithromycin
  - Check sputum for atypical mycobacteria
  - Check ECG for long QTc (and re-check after a month of treatment)
  - Consider the risk of increasing antimicrobial resistance (population or personal)



# Add-on biologic therapy for severe Type 2 asthma



- When assessing eligibility, repeat blood eosinophils if low at first assessment
  - One study found that 65% patients on medium or high dose ICS-LABA shifted their eosinophil category during 12 months' follow-up (*Lugogo et al, Ann Allergy Asthma Immunol 2020*)
- Additional indications for these therapies in Europe and/or USA have been listed
  - Omalizumab: chronic idiopathic urticaria, nasal polyposis
  - Mepolizumab: hypereosinophilic syndrome, eosinophilic granulomatosis with polyangiitis (EGPA)
  - Benralizumab: no additional indications at present
  - Dupilumab: chronic rhinosinusitis with nasal polyposis (CRSwNP); atopic dermatitis
- Check local regulatory approvals and eligibility criteria



# COVID-19 and asthma - medications



- Advise patients to continue taking their prescribed asthma medications, particularly inhaled corticosteroids (ICS)
  - For patients with severe asthma, continue biologic therapy or oral corticosteroids if prescribed
- Are ICS protective in COVID-19?
  - In one study of hospitalized patients aged  $\geq 50$  years with COVID-19, ICS use in those with asthma was associated with lower mortality than in patients without an underlying respiratory condition (*Bloom, Lancet RM 2021*)
- Make sure that all patients have a written asthma action plan, advising them to:
  - Increase controller and reliever medication when asthma worsens (see GINA report Box 4-2)
  - Take a short course of OCS when appropriate for severe asthma exacerbations
- Avoid nebulizers where possible, to reduce the risk of spreading virus
  - Pressurized metered dose inhaler via a spacer is preferred except for life-threatening exacerbations
  - Add a mouthpiece or mask to the spacer if required

# COVID-19 vaccines and asthma



- COVID-19 vaccination and biologic therapy
  - We suggest that biologic therapy and COVID-19 vaccine should not be given on the same day, so that adverse effects of either can be more easily distinguished
- After COVID-19 vaccination
  - Current advice from the United States Centers for Disease Control and Prevention (CDC) is that people who have been fully vaccinated against COVID-19 should continue to wear a mask in crowded settings. Further details are [here](#)
- Influenza vaccination
  - Remind people with asthma to have an annual influenza vaccination
  - A gap of 14 days between COVID-19 vaccination and influenza vaccination is recommended by [CDC](#)
- GINA will update advice about COVID-19 and asthma as new data become available



台灣

成人氣喘臨床照護指南

衛生福利部國民健康署、考科藍臺灣研究中心、台灣

台灣

成人氣喘臨床照護指南

衛生福利部國民健康署、考科藍臺灣研究中心、台灣

SEVERE ASTHMA CASEBOOK

嚴重氣喘案例集

The suggested check list

The Inhaler Adherence and Technique Check List

Does the patient use the inhaler regularly? (from monitoring the prescription or dispensing records)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the patient use the inhaler regularly? (from patient interview)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Has the patient's inhaler technique been re-confirmed by a trained medical provider?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the patient use a spacer (if needed)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

The suggested check list

The Modifiable Risk Factors Check List

	Patient has this factor?	Could be further modified?
Active smoking	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Significant environmental exposures, including indoor/outdoor allergens and pollutants	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Chronic rhinosinusitis	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Chronic obstructive pulmonary disease	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bronchiectasis	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Obstructive sleep apnea	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Cardiac diseases	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Gastroesophageal reflux disease	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Anxiety and/or depression	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Obesity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No



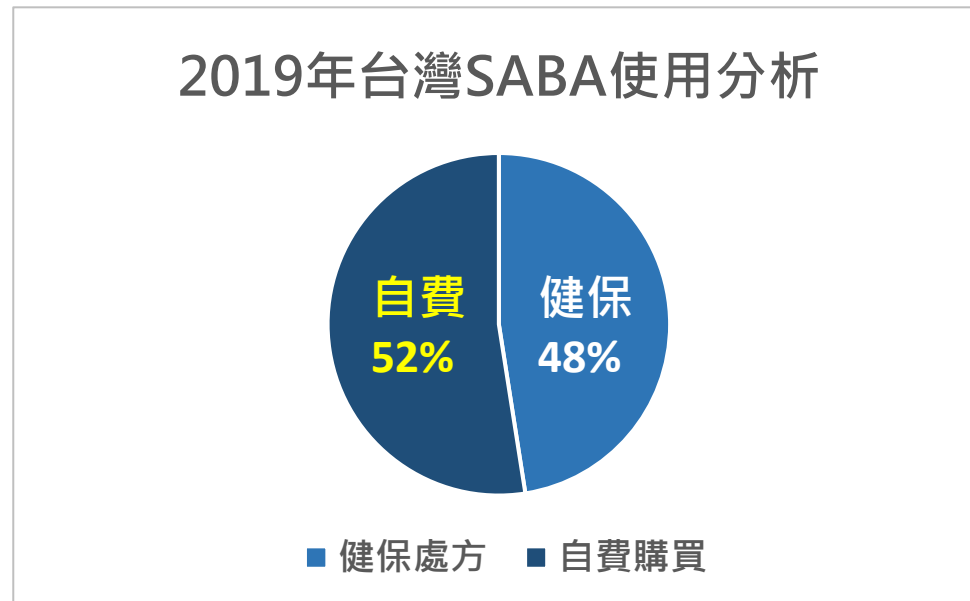
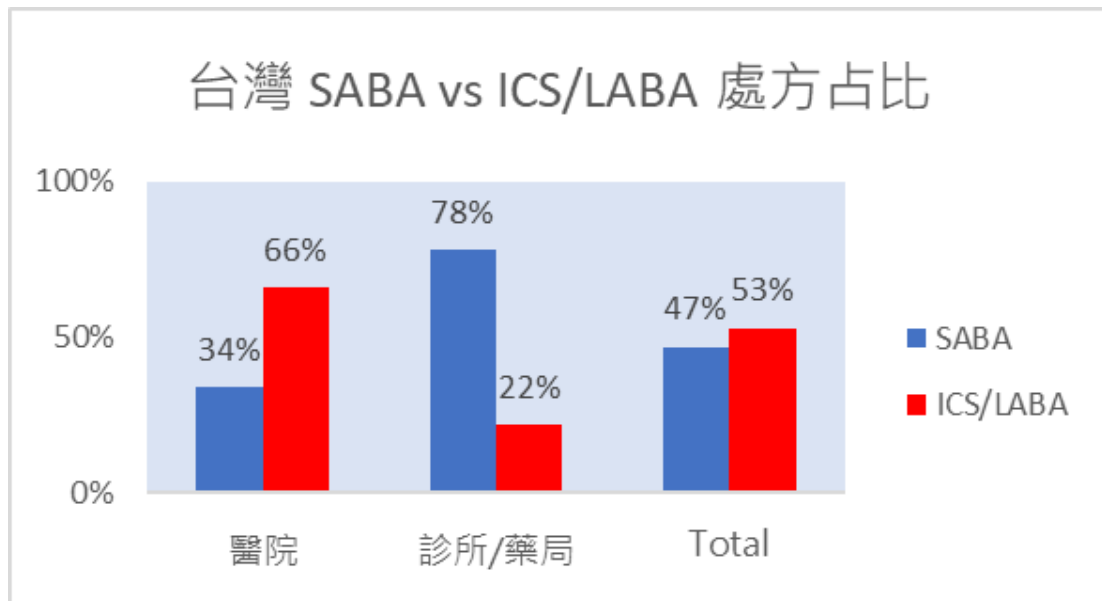
# From Policy to Clinical Practice:

## How to Solve the Problem of SABA Reliance

- Taiwan Asthma Patient Journey - Identify the “SABA leakage point”
- SABA leakage point 1 –Patient & Physicians
- SABA leakage point 2 – Other specialties
- SABA leakage point 3 – ER Asthma Discharge Protocol
- SABA leakage point 4 – Policy Shaping



# 台灣 SABA 與 ICS/LABA 使用現況



- 2019年全台灣SABA銷售量約102萬支<sup>1</sup>
- 台灣SABA vs ICS/LABA (支數) 占比約47%:53%<sup>1</sup>
- 健保處方(45萬支)：藥局自費(57萬支) 約 1:1.3



「台灣氣喘 SABA 使用與住院急診風險」  
研究數據公布



**近16%**

台灣超過200萬名氣喘患者  
過度依賴SABA

但其實.....這只是冰山一角！

如加上自費購買的患者  
專家分析

**恐達30%**



# SABA Leakage Point 1 – Patient education - Patient



急救吸入劑依賴評估測驗

一、您對於急救吸入劑的看法

1 使用急救吸入劑來治療氣喘症狀是保持氣喘控制的最佳方法。  
☐ 1 完全不同意 ☐ 2 不同意 ☐ 3 不確定 ☐ 4 同意 ☐ 5 完全同意

2 當隨身攜帶急救吸入劑時，我不擔心氣喘。  
☐ 1 完全不同意 ☐ 2 不同意 ☐ 3 不確定 ☐ 4 同意 ☐ 5 完全同意

3 我覺得急救吸入劑，是我在治療氣喘上唯一可以依賴的藥物。  
☐ 1 完全不同意 ☐ 2 不同意 ☐ 3 不確定 ☐ 4 同意 ☐ 5 完全同意

4 使用急救吸入劑所帶來的好處遠超過所帶來的風險。  
☐ 1 完全不同意 ☐ 2 不同意 ☐ 3 不確定 ☐ 4 同意 ☐ 5 完全同意

5 相較於含有類固醇的維持療法藥物，我更喜歡依賴我的急救吸入劑。  
☐ 1 完全不同意 ☐ 2 不同意 ☐ 3 不確定 ☐ 4 同意 ☐ 5 完全同意

..... 第1-5題，加總共  分

二、使用急救吸入劑的頻率

1. 請圈選最符合您目前情況的答案，並於題目最後的格子填入分數。  
2. 請和您的醫師、護理師或藥師分享您的分數。

過去四週您平均使用急救吸入劑的頻率為何？

☐ 1 從未使用 ☐ 2 每週少於2次 ☐ 3 每週3次 ☐ 4 每週4-5次 ☐ 5 每週5次以上

分



- 您認為RRT有辦法幫助您在門診中發現SABA過度依賴的氣喘病患嗎？
- 您認為RRT在實際臨床操作中，可能面臨的問題有哪些？
- 您覺得可以如何優化目前您所在醫院的氣喘衛教？
- 針對一般社會大眾，您覺得可以怎麼提升全體民眾對於氣喘的疾病認知？

# SABA Leakage Point 1 – Patient education - Patient



急救吸入劑依賴評估測驗

一、您對於急救吸入劑的看法

1 使用急救吸入劑來治療氣喘症狀是保持氣喘控制的最好方法。 分數

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

2 當隨身攜帶急救吸入劑時，我不擔心氣喘。 分數

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

3 我覺得急救吸入劑，是我在治療氣喘上唯一可以依賴的藥物。 分數

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

4 使用急救吸入劑所帶來的好處遠超過所帶來的風險。 分數

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

5 相較於含有類固醇的維持療法藥物，我更喜歡依賴我的急救吸入劑。 分數

① 完全不同意 ② 不同意 ③ 不確定 ④ 同意 ⑤ 完全同意

第1-5題，加總共 分

二、使用急救吸入劑的頻率

1. 請選擇最符合您目前情況的答案，並於題目最後的格子填入分數。

2. 請和您的醫師、護理師或藥師分享您的分數。

過去四週您平均使用急救吸入劑的頻率為何？ 分數

① 從未使用 ② 每週少於2次 ③ 每週3次 ④ 每週4-5次 ⑤ 每週5次以上



- Identify underlying SABA reliance patient – Reliever Reliance Test
- Precise patient education message
- Public awareness: World Asthma Day, 持續大眾衛教 (如戒菸宣導)

# SABA Leakage Point 1 – Patient education - Physician



急救吸入劑依賴評估測驗

一、您對於急救吸入劑的看法

1 使用急救吸入劑來治療氣喘症狀是保持氣喘控制的最佳方法。 ☐ 完全不同意 ☐ 不同意 ☐ 不確定 ☐ 同意 ☐ 完全同意

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3 我覺得急救吸入劑，是我在治療氣喘上唯一可以依賴的藥物。 ☐ 完全不同意 ☐ 不同意 ☐ 不確定 ☐ 同意 ☐ 完全同意

4 使用急救吸入劑所帶來的好處遠超過所帶來的風險。 ☐ 完全不同意 ☐ 不同意 ☐ 不確定 ☐ 同意 ☐ 完全同意

5 相較於含有類固醇的維持療法藥物，我更喜歡依賴我的急救吸入劑。 ☐ 完全不同意 ☐ 不同意 ☐ 不確定 ☐ 同意 ☐ 完全同意

..... 第1-5題，加總共  分

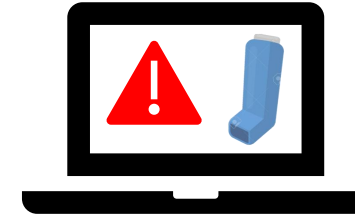
二、使用急救吸入劑的頻率

1. 請選擇最符合您目前現況的答案，並於題目最後的格子填入分數。

2. 請和您的醫師、護士或藥師分享您的分數。

過去四週您平均使用急救吸入劑的頻率為何？  分

☐ 從未使用 ☐ 每週少於2次 ☐ 每週3次 ☐ 每週4-5次 ☐ 每週5次以上



- SABA慢籤連處合理性？
- Identify underlying SABA reliance patient – Reliever Reliance Test
- Patient education program
- SABA院內系統警示 (Alert when  $\geq 3$  cannister/year or consecutive prescription)

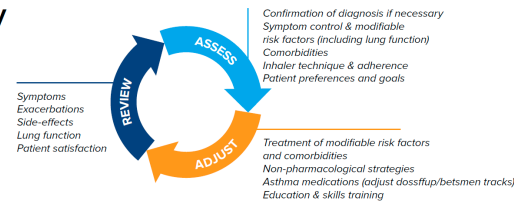


# SABA Leakage Point 2 – Other specialties (FM, IM, CV, ENT)

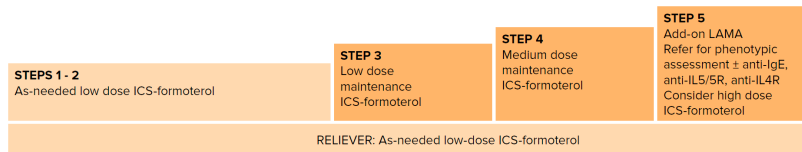
## The GINA asthma treatment strategy

Adults & adolescents  
12+ years

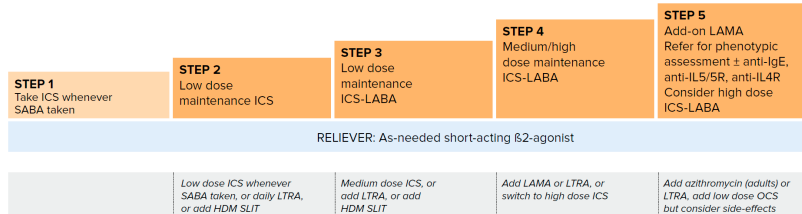
Personalized asthma management  
Assess, Adjust, Review  
for individual patient needs



**CONTROLLER** and **PREFERRED RELIEVER**  
(Track 1). Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever



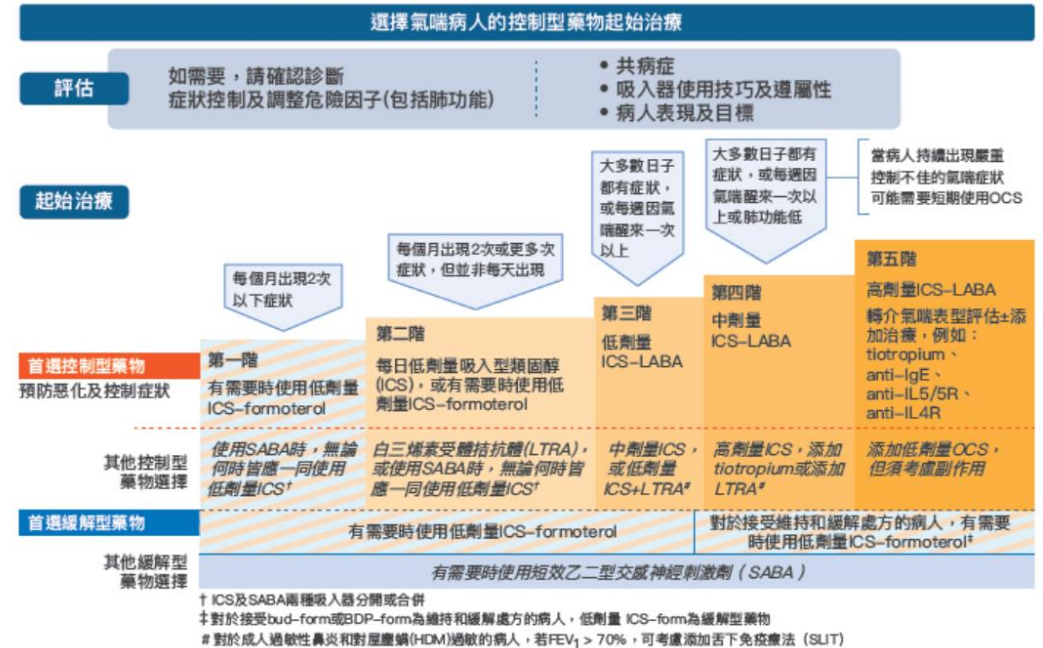
**CONTROLLER** and **ALTERNATIVE RELIEVER**  
(Track 2). Before considering a regimen with SABA reliever, check if the patient is likely to be adherent with daily controller



Other controller options for either track

Low dose ICS whenever SABA taken, or daily LTRA, or add HDM SLIT	Medium dose ICS, or add LTRA, or add HDM SLIT	Add LAMA or LTRA, or switch to high dose ICS	Add azithromycin (adults) or LTRA, add low dose OCS but consider side-effects
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圖3-1 成人和青少年氣喘初始控制型藥物治療的選擇



HDM：屋塵蟎(house dust mite)；ICS：吸入性類固醇；LABA：長效乙二型交感神經刺激劑；LTRA：白三烯素受體拮抗劑(leukotriene receptor antagonists)；OCS：口服類固醇；SABA：短效乙二型交感神經刺激劑；SLIT：舌下免疫療法(sublingual immunotherapy)

- GINA 2021 update

- 台灣氣喘診療指引更新精要

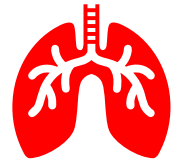
## SABA Leakage Point 2 – Other specialties (FM, IM, CV, ENT)

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家醫科  
一般內科  
心臟內科  
耳鼻喉科

氣喘  
(呼吸道疾病)



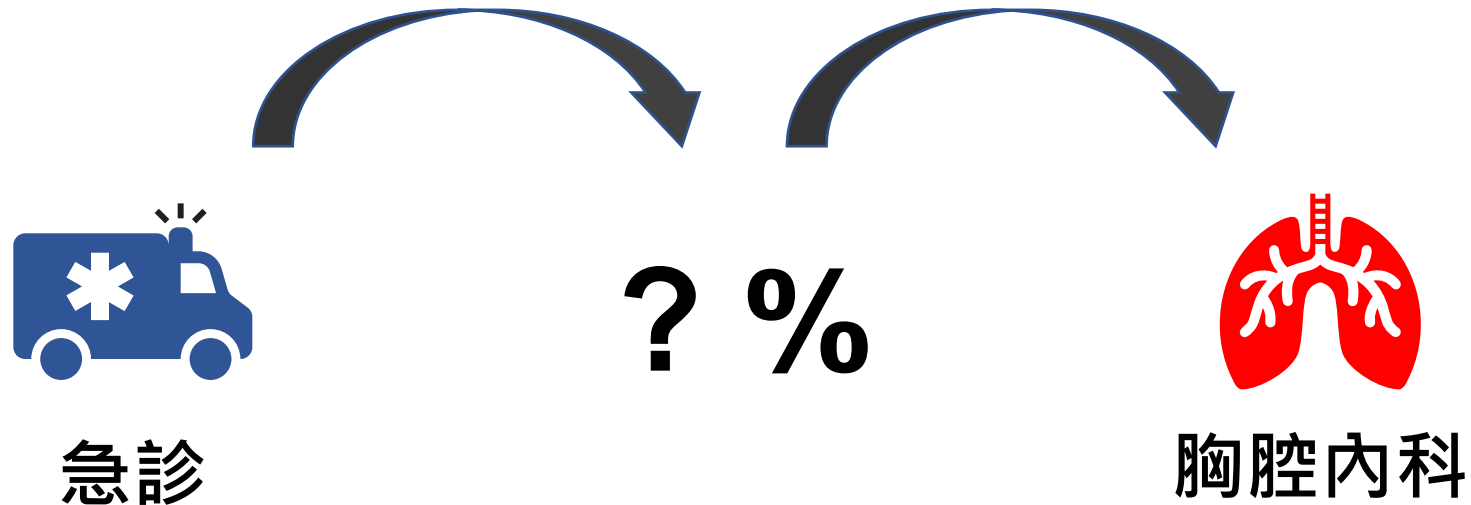
胸腔內科

- 胸腔科主導院內跨科氣喘治療共識

- 院內門診轉介

# SABA Leakage Point 3 – ER Asthma Discharge Protocol

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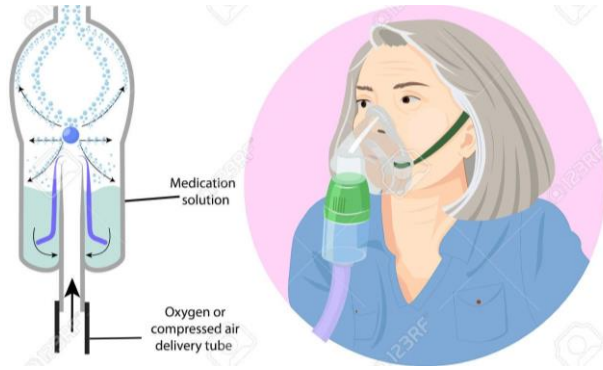


- 急診實際轉診比例？

- 病患實際就診比例？



# SABA Leakage Point 3 – ER Asthma Discharge Protocol



- SABA Nebulizer
- IV Steroid, Antibiotics
- Others



- SABA
- 口服類固醇
- 口服抗生素
- Others



急診



3天後回診



胸腔內科

- 急診對氣喘發作的治療流程

- 急診對氣喘發作之病患的出院流程 – 症狀緩解藥物處方、轉診掛號

# SABA Leakage Point 4 – Policy Shaping

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- 全民健康保險氣喘醫療給付改善方案 疾病別指標 &品質獎勵指標
- SABA之健保給付規範
- SABA於一般藥局之購買規定
- 疾病別品質認證 – 氣喘 醫策會
- 氣喘審查規範

*Thanks for Your Attention*