



USAsthma SUMMIT 2023

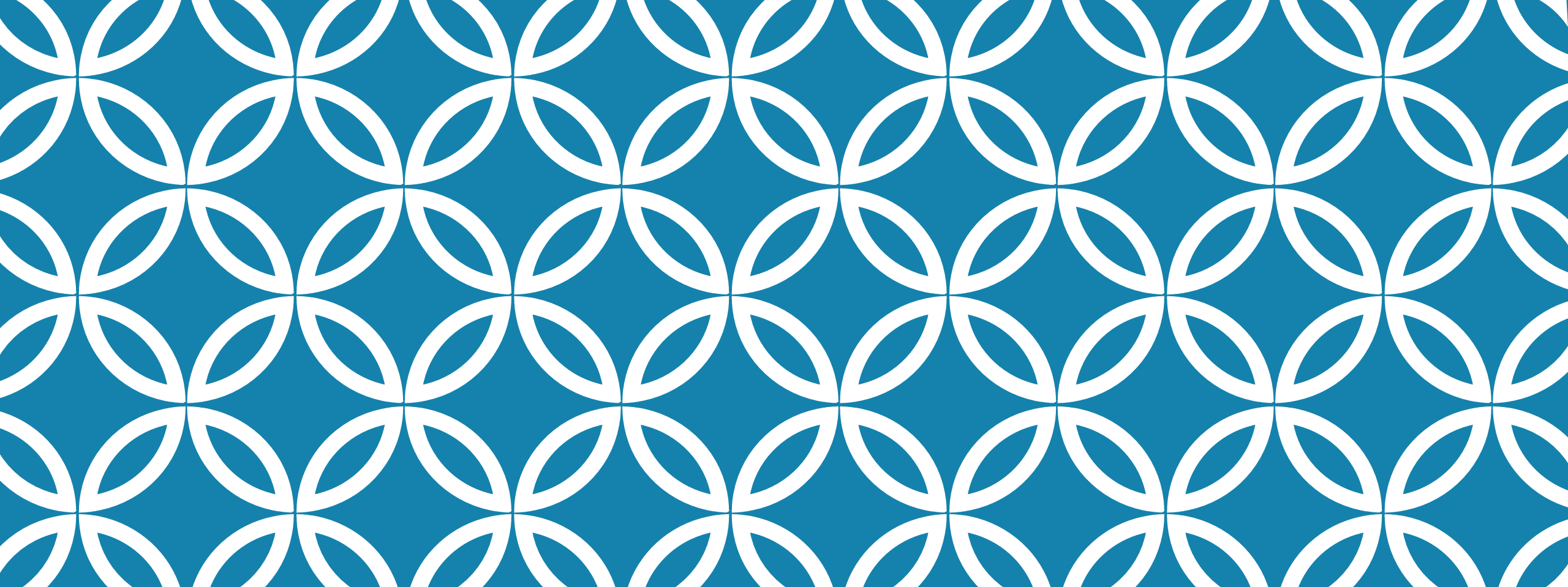
Asthma Medications and Management: Empowering Patients to Learn Their Options

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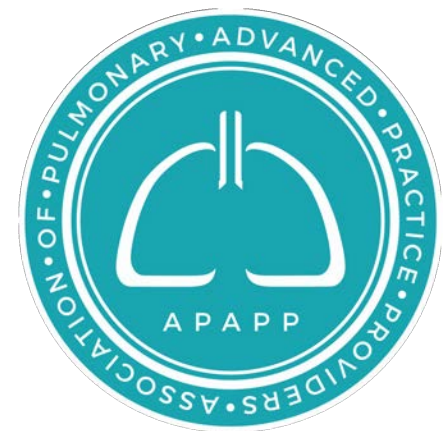
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ASTHMA MEDICATIONS AND MANAGEMENT: EMPOWERING PATIENTS TO LEARN THEIR OPTIONS

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DISCLOSURES

Speakers Bureaus

Grifols: AAT

AstraZeneca: Asthma

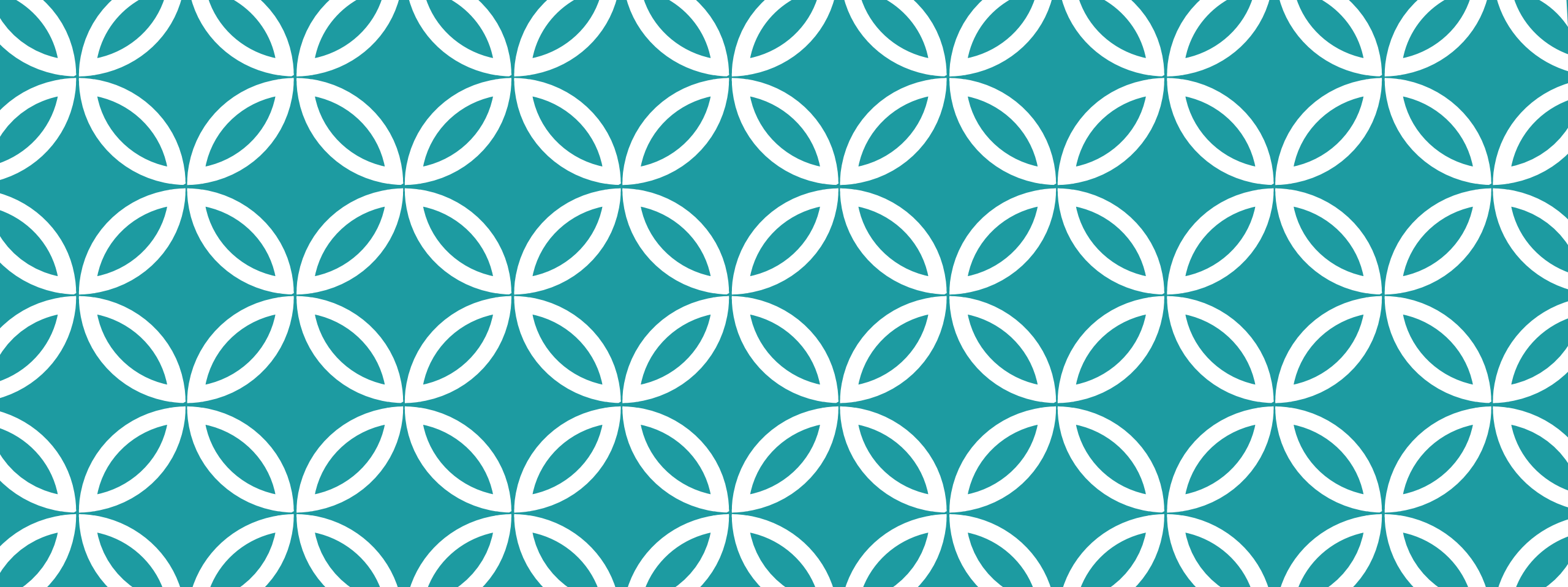
Advisory Boards

Takada: AAT

AstraZeneca: Asthma

OBJECTIVES

- Understand the clinical nature of asthma
- Briefly review the 2023 GINA guideline asthma updates that are relevant to medical management
- Discuss how to empower patients in their care



ASTHMA: PAST, PRESENT, & FUTURE



ASTHMA'S PAST

2500 BC asthma was first described as whistling sound while breathing

300 BC Hippocrates termed Asthma meaning respiratory distress & panting caused by triggers.

1905 asthma treatment was then as it is now: acute rescue treatment, controller treatment, and prevention of long-term complications.

ASTHMA'S PRESENT

Worldwide: 262 million affected & 455 000 deaths from asthma (2019)

Approximately 10 people in the U.S. die from asthma each day

In 2021, 3,517 people died from asthma.

In 2020, deaths due to asthma rose for the first time in 20 years.

<https://www.who.int/news-room/fact-sheets/detail/asthma>

<https://aafa.org/asthma/asthma-facts/>

GINA 2023: WHAT'S NEW

New Definition:

“Asthma is a heterogeneous disease, usually characterized by chronic airway inflammation. It is defined by the history of respiratory symptoms, such as wheeze, shortness of breath, chest tightness and cough that very over time and in intensity together with variable expiratory air flow limitation” - GINA 2023 Definition of Asthma

How is that relevant to practice & patients?

GINA PHENOTYPES

- **Childhood Onset: allergic/exercise**
- **Adult Onset Atopic**
 - hx: allergic rhinitis in childhood. More IgE driven
- **Adult Onset Non-atopic**
 - Post viral/ occupational or other toxic exposure hx
- **Hypereosinophilic Adult Onset (Eos gone wild!)**
 - +/- Atopy, +/- AERD, +/- nasal polyps
- **Other:**
 - Asthma Associated with Obesity
 - Perimenopausal Asthma (neutrophilic action)
 - Obstructive Asthma
 - Not ACOS

Understanding phenotypes helps patients correlate their “type” of asthma and why it behaves the way it does.

Helps providers focus on treatment options.

GINA 2023 CLINICAL UPDATES

Diagnostics:

Significant BD Response updated:

+10% of Predicted Value (FEV1 or FVC) vs. 12% and 200mls (don't get me started on GLI-Global)

FeNO finally has a place...but not by itself
(A normal blow = FeNO)

Terms:

AIR PRN (Anti-Inflammatory Reliever) or **AIR-only**

ICS (formoterol or budesonide) plus SABA

Airsupra (Albuterol-Budesonide 90mcg/80mcg per puff)

MART (Maintenance And Reliever Therapy)

SMART (Single Maintenance And Reliever Therapy)

Maintenance not Controller

Apparently Mild Asthma not Mild Asthma

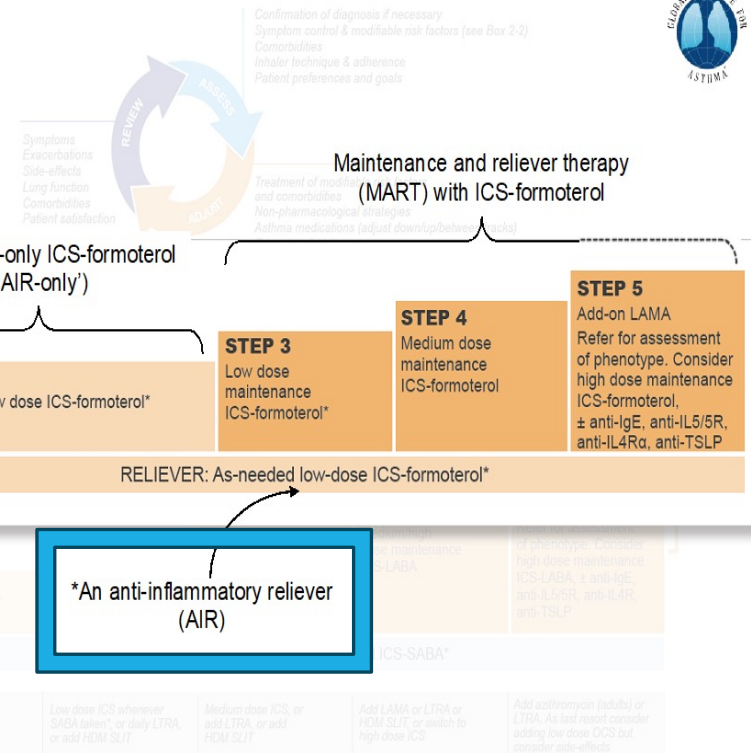
AIRSUPRA (ALBUTEROL 90MCG/BUDESONIDE 80MCG)

(AIR)

- 18 years old and older
- 2 puffs as needed for asthma symptoms
- Max 6 puffs per day
- Add on therapy, not a stand alone therapy
- Same side effects as albuterol and budesonide alone
- Oral hygiene necessary
- Hit the US market in October 2023. Insurance coverage?

GINA 2023 – Adults and adolescents
Track 1

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



SMART_{ER} THERAPY

Original Investigation | Pulmonary Medicine

March 1, 2022

Evaluation of Budesonide-Formoterol for Maintenance and Reliever Therapy Among Patients With Poorly Controlled Asthma A Systematic Review and Meta-analysis

Richard Beasley, DSc^{1,2,3}; Tim Harrison, MD^{4,5}; Stefan Peterson, PhD⁶; et al

» [Author Affiliations](#) | [Article Information](#)

JAMA Netw Open. 2022;5(3):e220615. doi:10.1001/jamanetworkopen.2022.0615

meta-analysis of 5
randomized clinical trials

4863 patients with poorly
controlled asthma

SMART vs step up or
continuation of GINA treatment
step with ICS-LABA plus SABA

Who had the longer time to
first severe asthma
exacerbation?

Switching to SMART at either
step 3 or 4 GINA was
associated with a prolonged
time to first severe asthma
exacerbation, with a 29%
reduced risk compared with
stepping up to step 4
ICS/LABA maintenance plus
SABA reliever (hazard ratio,
0.71; 95% CI, 0.52-0.97).



Step	Age (years)	Medication and device (check patient can use inhaler)	Metered dose (mcg/inhalation)	Delivered dose (mcg/inhalation)	Dosage
Steps 1–2 (AIR-only)	6–11	(No evidence)	-	-	-
	12–17 ≥18	Budesonide-formoterol DPI	200/6	160/4.5	1 inhalation whenever needed
Step 3 MART	6–11	Budesonide-formoterol DPI	100/6	80/4.5	1 inhalation once daily, PLUS 1 inhalation whenever needed
	12–17 ≥18	Budesonide-formoterol DPI	200/6	160/4.5	1 inhalation once or twice daily, PLUS 1 inhalation whenever needed
	≥18	BDP-formoterol pMDI	100/6	84.6/5.0	
Step 4 MART	6–11	Budesonide-formoterol DPI	100/6	80/4.5	1 inhalation twice daily, PLUS 1 inhalation whenever needed
	12–17 ≥18	Budesonide-formoterol DPI	200/6	160/4.5	2 inhalations twice daily, PLUS 1 inhalation whenever needed
	≥18	BDP-formoterol pMDI	100/6	84.6/5.0	
Step 5 MART	6–11	(No evidence)	-	-	-
	12–17 ≥18	Budesonide-formoterol DPI	200/6	160/4.5	2 inhalations twice daily, PLUS 1 inhalation whenever needed

DPI: dry powder inhaler; pMDI: pressurized metered dose inhaler. For budesonide-formoterol pMDI with 3 mcg [2.25 mcg] formoterol, use double number of puffs

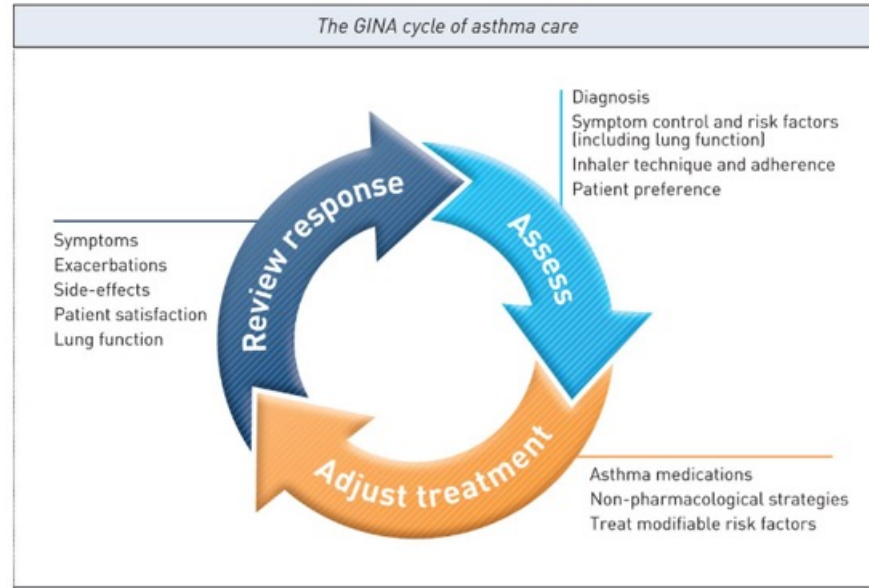
Current Biologic Options

Biologics Comparison	Xolair™ (omalizumab)	Nucala™ (mepolizumab)	Fasenra™ (benralizumab)	Cinqair™ (reslizumab)	Dupixent™ (dupilumab)	Tezspire™ (tezepelumab)
Manufacturer	Genentech	GSK/Novartis	AstraZeneca	Teva	Sanofi/Genzyme	AstraZeneca
Approved age	≥ 6 years	≥ 6 years	≥ 12 years	≥ 18 years	>6 years	≥ 12 years
Number of doses/year	12-26	12	8	12	12-28	12
Dosing	Based on total IgE and weight SQ every 2-4 weeks	≥12: 100 mg SQ every 4 weeks 6-11: 40 mg SQ every 4 weeks	30 mg SQ every 4 weeks x 3 doses, then 30 mg SQ every 8 weeks	3 mg/kg IV every 4 weeks	Dosing depends on age, weight, indication: every 2-4 weeks	210mg SQ every 4 weeks
Available as pre-filled syringe	Yes (75 mg & 150 mg)	Yes (100 mg)	Yes (30 mg)	No	Yes (200 mg & 300 mg)	Yes
Available as auto-injector	No	Yes (100 mg)	Yes (30 mg)	No	Yes	No
Mechanism of Action	IgE antagonist	IL-5 antagonist	IL-5 antagonist	IL-5 antagonist	IL-4 and IL-13 dual inhibitor	Thymic stromal lymphopoietin (TSLP) inhibitor
Qualifying lab data	Total IgE ≥ 30 IU/mL	Eosinophils ≥ 150 cells/μL	Eosinophils ≥ 150 cells/μL	Eosinophils ≥ 400 cells/μL	None required but benefits seen with Eosinophils ≥ 150-300 cells/uL	None required
Reduction (%) in Exacerbation	48%-58% reduction at 16 weeks	53% reduction at 32 weeks (MENSA trial) 58% reduction at 24 weeks (MUSCA trial)	51% reduction at 48 weeks (SIRROCO trial)	50-59% reduction at 52 weeks (Trial 1 & 2)	Trial 1: 71-81% reduction at 24 weeks Trial 2: 66-67% reduction at 52 weeks (eos≥300) OR 46-48% reduction at 52 weeks (eos≥150)	Reduced exacerbations by up to 75% (PATHWAY trial) and 56% (NAVIGATOR trial)
Reduction (%) in OCS dose	75% reduction	50% reduction (SIRIUS trial)	75% reduction (ZONDA trial)	N/A	28% reduction (VENTURE trial)	No significant reduction (SOURCE trial)
Patient assistance program	Yes	Yes	Yes	Yes	Yes	Yes

CYCLE OF ASTHMA CARE

Opportunity for Shared Decision Making Which Improves:

- QOL
- Outcomes
- Adherence



Shared Decision Making Tools:



Opportunity for Patient Empowerment

- ACT/AirQ
- Peak Flow Monitoring
- Rules of 2

ASTHMA'S FUTURE: WHAT'S TO COME...

New Phenotypes:

Rheumatoid arthritis??

Asthmatic granulomatosis

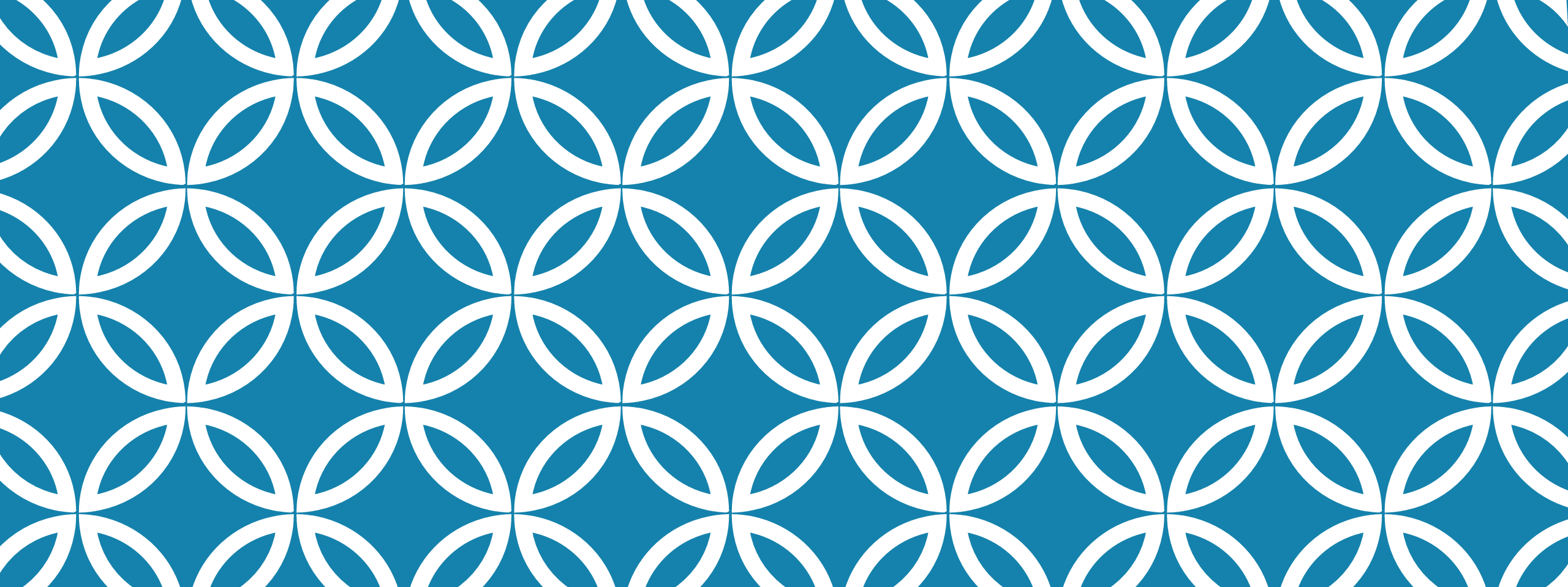
New Type 2 biomarkers:

More interleukins to memorize

Neutrophilic asthma therapies?

Drugs:

- In the works:
 - Masitinib, Budesonide/Formoterol, Ensifentrine, Bedoradrine, Tregalizumab, Lumicitabine, Ifetroban, Halix(TM) Albuterol, Rilzabrutinib, Dexamipexole, Voriconazole Inhalation Powder, Nomacopan, Anti mIgE+B-cell
 - Dexamipexole to inhibit the maturation and release of eosinophils in bone marrow
 - UPB-101: a monoclonal antibody blocking (TLSP-R) inhibiting TSLP
- Going generic:
 - Spiriva Handihaler
- Going away:
 - Flovent Brand diskus and HFA will be discontinued after 12/31/2023



Questions?

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