# Asthma Phenotyping Should Only Be Done on Severe Asthma

Dennis K. Ledford, MD, FAAAAI, FACAAI, LCP Ellsworth and Simmons Professor of Allergy and Immunology Morsani College of Medicine, University of South Florida Section Chief, Allergy/Immunology, James A. Haley VA Hospital

## Objectives

- Participants will recognize that it is an obvious waste of time and resources to go through the ridiculous exercise of phenotyping every asthma patient
- Participants will prioritize the use of biomarkers in asthma
- Participants will identify that current biomarkers for asthma overlap and are imprecise

# Why Phenotype Asthma Patients?

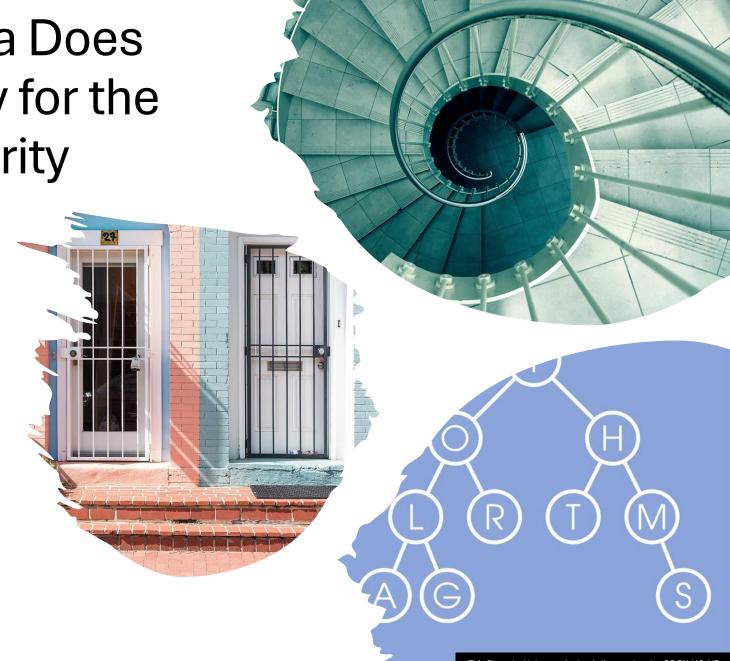
- Therapeutic Decision Making
- Predicting Risk
- Better Understanding of Disease Beyond History, Physical Examination, Spirometry and Skin Testing

## Why Phenotype Asthma Patients?

- Therapeutic Decision Making
- Predicting Risk
- Better Understanding of Disease Beyond History, Physical Examination, Spirometry and Skin Testing
- Getting Biologic Therapy Approved (5%-10% of persistent asthma patients)

Phenotyping Asthma Does Not Change Therapy for the Overwhelming Majority

- Guideline directed, evidence based therapeutic choices are based upon step therapy not algorithms
- All asthma patients start at an initial step and step up or down



### Intermittent Asthma

### Persistent Asthma: Daily Medication

Where do you see phenotyping?

L	Astnma				
ICS: inhalable corticosteroid OCS: oral corticosteroid SABA: Short acting $\beta_2$ agonist LABA: Long acting $\beta_2$ agonist LTRA: Leukotriene receptor antagonist		GINA Guid	Symptoms most days, or waking with	Symptoms most days, or waking with asthma once a week or more, and low lung function	Step 5
Preferred Controller to prevent exacerbations & control	Symptoms less than twice a month  Step 1 As needed low dose ICS-formoterol	twice a month or more, but less than daily  Step 2  Daily low dose ICS, or as needed low dose ICS-formotrol	sthma once a week or more  Step 3  Low dose ICS-LABA	Step 4  Medium dose ICS-LABA	High dose ICS-LABA  Refer for phenotypic assessment ± add on therapy: e.g. tiotropium, anti-IgE, anti-IL5/5R, anti-IL4R
Other controller options  Preferred	Low dose ICS taken whenever SABA is taken	Daily LTRA or low dose ICS taken whenever SABA taken  As needed lo	Medium-dose ICS, or low dose ICS + LTRA	High-dose ICS, add-on tiotropium, or add-on LTRA	Add low dose OCS, but consider side effects
Reliever					

**Severity of Symptoms** 

# Asthma Phenotypic Markers Are Not Good





Overlap

**Lack Precision** 



Only Identify
Type 2 Disease

How Does My Colleague Propose to Phenotype All Asthma Patients? Weight (no cut offs to identify risk)

IgE (high variability)

Skin testing (identifies allergy but does not help in management of majority)

FeNO (does not predict outcomes with measurement)

Blood Eosinophil Count (varies by as much as 50% over time)

Really!!! Is this all you have? Then why bother?

How Does My Colleague Propose to Phenotype All Asthma Patients?



# Do Not Phenotype All Asthma Patients As It Is Ridiculous

Does not affect management of the overwhelming majority

Guideline evidence-based therapeutic recommendations do not utilize

Available phenotypic markers are imprecise

Available phenotypic markers overlap or are redundant

Reserve to gain approval for the subset of severe patients for whom biologic therapy is a consideration