# INVUNO

#INMUNOAprende



# aprence









## **ÍNDICE DE CONTENIDOS**

01 Definición

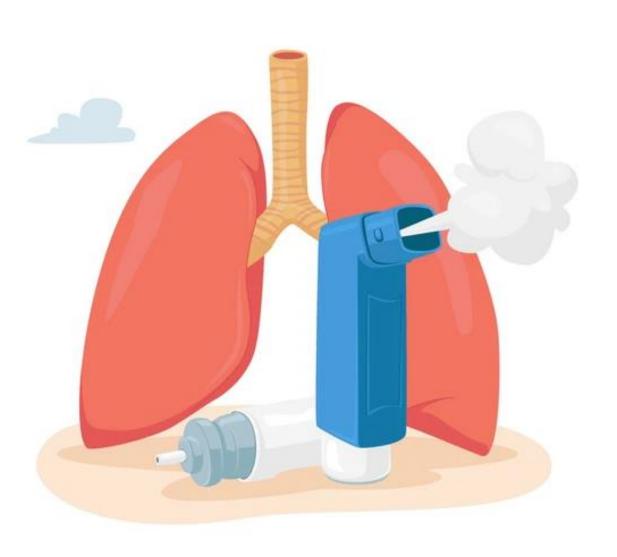
Epidemiología y factores de riesgo

103 Fisiopatología

Abordaje diagnóstico

05 Manejo

Seguimiento



## INTRODUCCIÓN

## DEFINICIÓN

Enfermedad heterogénea, usualmente caracterizada por inflamación crónica de la vía aérea. Se define por la presencia de síntomas respiratorios como:

Sibilancias

Opresión en el pecho

Tos

Respiración entrecortada







### **EPIDEMIOLOGIA**

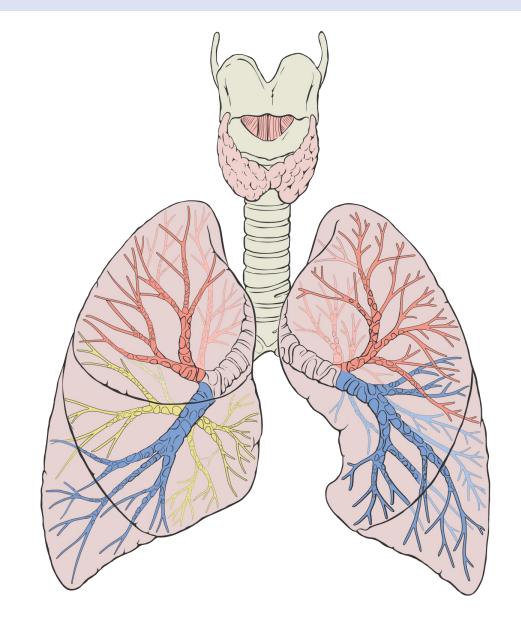
- Afecta a más de 300 millones de personas.
- Mayo prevalencia en países desarrollados.
- Últimas investigaciones se han centrado en:
- ✓ Cambios de la dieta durante embarazo
- ✓ ,Microbiota intestinal y respiratoria
- ✓ Prematuridad
- ✓ Uso de paracetamol en el embarazo



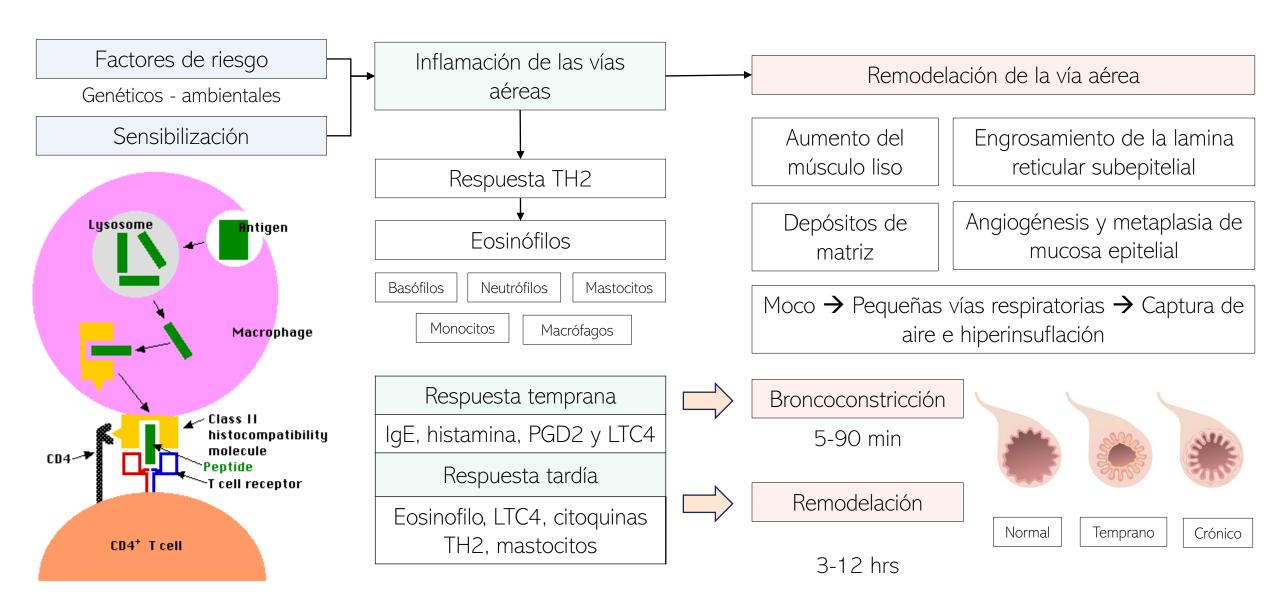
## INTRODUCCIÓN

## FACTORES DE RIESGO

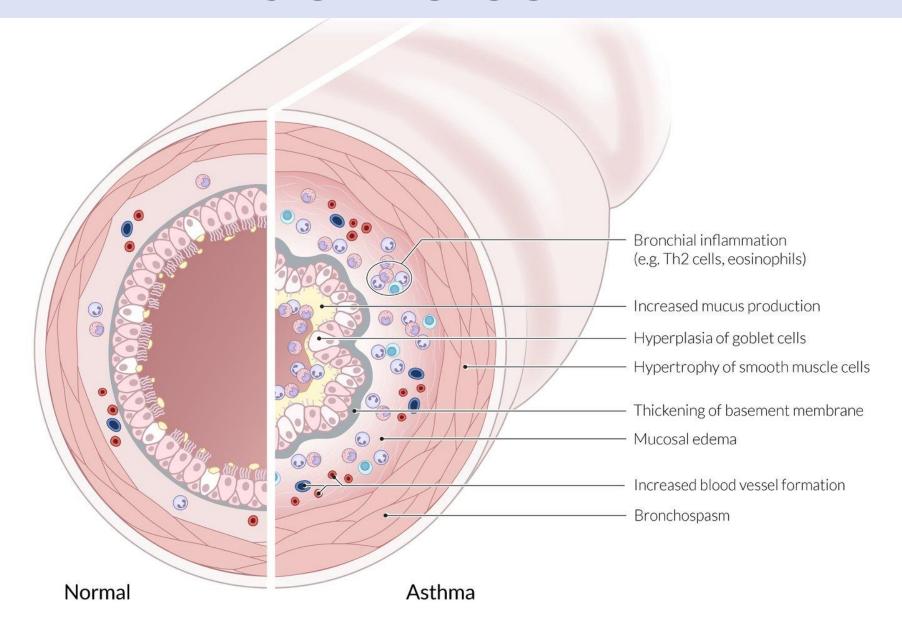
Edad	• 50% de los niños a los 3 años
Sexo	<ul> <li>Mas comun en niños</li> <li>Se invierte en la adolescencia y adultez</li> </ul>
Alergenos ambientales	<ul> <li>Sensibilización a alergenos en edad temprana</li> <li>Acaros del polvo</li> </ul>
Infecciones virales	Rinovirus y VSR (causa mas frecuente de exacerbaciones)
Polución	CO2, N, O3, compuestos orgánicos volátiles, las partículas (PM10 y PM2.5)
Otros	Tabaco, obesidad



## FISIOPATOLOGIA



## FISIOPATOLOGIA



## FENOTIPOS DEL ASMA

#### Asma alérgica

- Fenotipo más fácil de reconocer
- Inicio en la infancia y con antecedente de atopia familiar

#### Asma no alérgica

- No hay respuesta alérgica
- Neutrófilos o pocas células inflamatorias (paucigranulocitica)

#### Asma de inicio tardío

- Suele no ser alérgica
- Difícil control
- Indagar por asma ocupacional

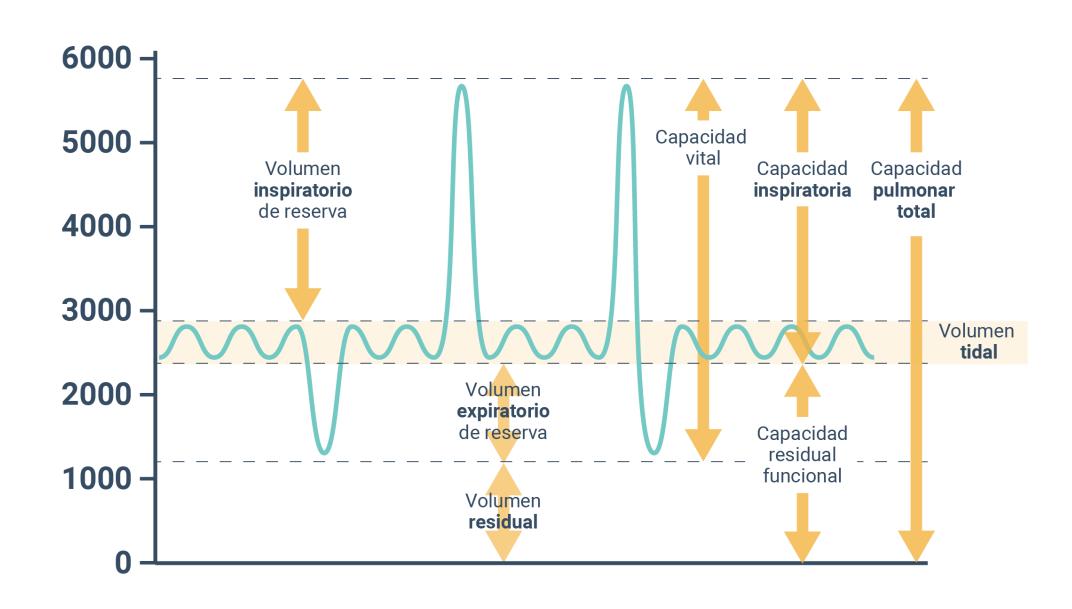
Asma con limitación persistente del flujo de aire

- Larga evolución
- Incompletamente reversible
- Remodelación de la vía aérea

#### Asma con obesidad

- Síntomas respiratorios prominentes
- Poca inflamación eosinofílica

## VOLUMENES PULMONARES Y ESPIROMETRIA



## **ESPIROMETRIA**

#### REPORTE ESPIROMÉTRICO

Espirometría	forzada
--------------	---------

Nombre: completo del paciente Fecha de nacimiento:

1994-04-25 Estatura: 174 cm Edad: 21 años

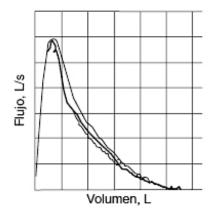
Fecha del estudio: 2015-06-11 Fecha de calibración: 2015-05-11

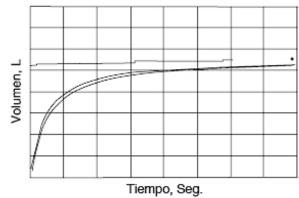
Sexo: masculino

Predicho: NHANES III Origen étnico: hispano Peso: 82 kg Técnico: LGGR

	Pred	LLN	Mejor prueba	1	2	3	% Pred
FVC (L)	5.37	4.49	5.54	5.54	5.48	5.45	103
FEV, (L)	4.59	3.85	4.99	4.97	4.99	4.93	109
FEV, /FVC	0.85	0.76	0.9	0.89	0.91	0.90	105
PEF (L/s)	10.1	7.55	12.5	12.5	10.9	11.5	124
FET	-	-	8	7.9	8	7.8	-
VExt	-	-	0.08	0.08	0.05	0.09	-
EOTV	-	-	0.02	0.01	0.01	0.02	-

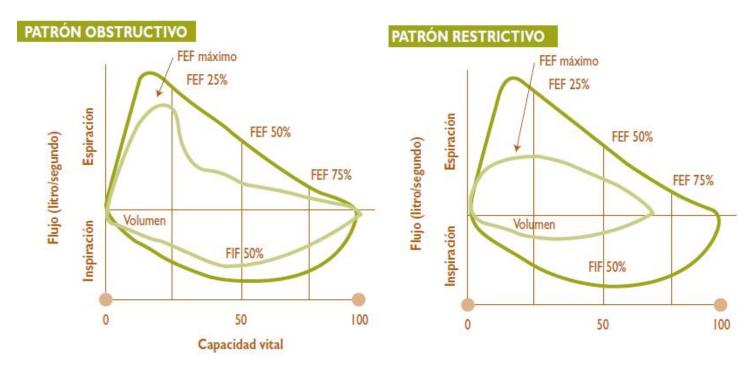
Repetibilidad: FVC: 60 mL y FEV,: 20 mL. Calidad de espirometría: A.



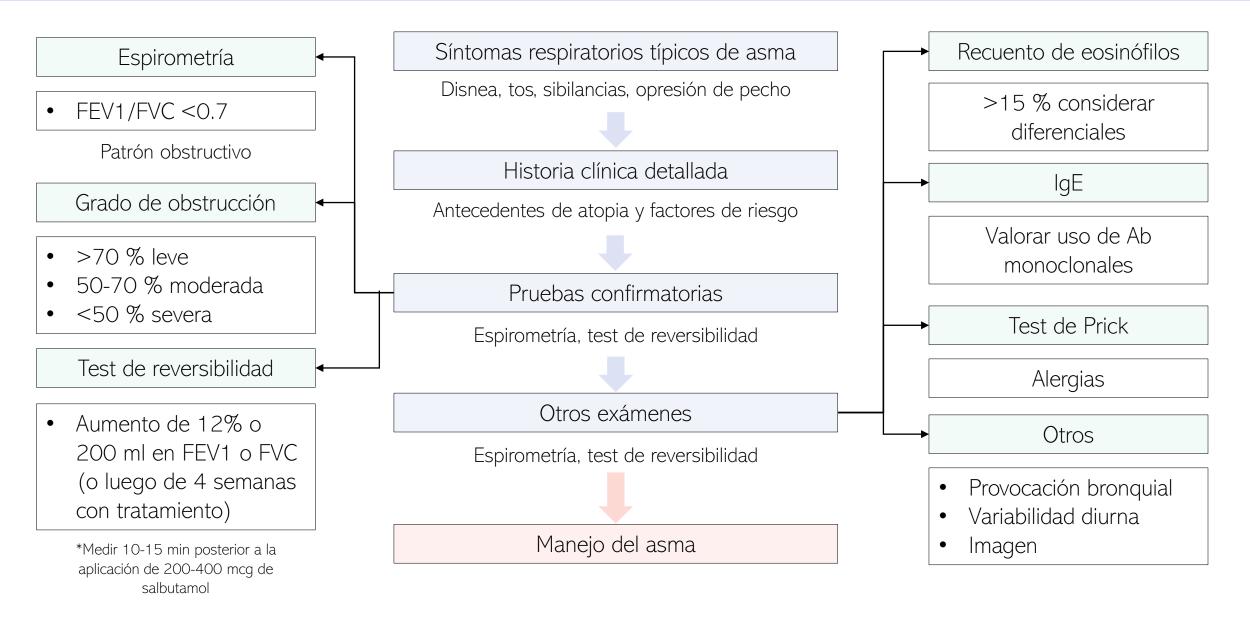


Prueba de función pulmonar que mide el volumen de aire exhalado en puntos de tiempo específicos durante una exhalación contundente y completa después de una inhalación máxima

#### Patrones espirométricos



## ABORDAJE DIAGNÓSTICO



## MANEJO

#### Síntomas diarios. Síntomas la mayoría Algoritmo 1 despertares 1 o de los días. más v/semana por ☐ Control y rescate Menos de 4-5 días Asma severa no despertares 1 o más asma y baja función con ICS-formateral con síntomas controlada v/semana por asma pulmonar Reduce el riesgo de exacerbación Paso 1-2 Paso 3 Paso 5 Paso 4 comparado con Dosis baja de ICS-Dosis baja de Dosis media de LAMA, referir para evaluar usar SABA de formoterol a mantenimiento ICSfenotipo, ICS-formoterol mantenimiento ICSrescate (efecto necesidad formoterol altas dosis antiinflamatorio) formoterol Régimen simple Terapia **SMART** Rescates: formoterol-ICS dosis bajas, a necesidad Síntomas la mayoría Síntomas diarios. Síntomas 2 o de los días. despertares 1 o más mas v/semana despertares 1 o más v/semana por asma y Asma severa no Síntomas Algoritmo 2 pero <4-5 dias baja función pulmonar v/semana por asma controlada <2/mes Rescate con SABA Paso 2 Paso 3 Paso 4 Paso 5 o ICS-SABA Paso 1 Dosis baja de Dosis media/altas de Dosis baja de ☐ Verificar que el LAMA, referir para ICS con cada mantenimiento mantenimiento ICSmantenimiento ICSevaluar fenotipo, ICSpaciente se apeque ICS LABA al tratamiento de LABA I ABA altas dosis rescate control

Rescates: SABA, a necesidad



#### Dosis diaria de fármacos (ICS solos o en combinación con LABA)

Adultos y adolescentes >12 años

ICS o combinación	Baja	Media	Alta	
Beclometasona (IDM, particula estandar, HFA)	200-500	>500-1000	>1000	
Beclometasona dipropionato (DPI, IDM, particula extrafina, HFA)	100-200	>200-400	>400	
Budesonida (DPI, IDM, particula estandar, HFA)	200-400	>400-800	>800	
Ciclesonida (IDM, particula extrafina, HFA)	80-160	>160-320	>800	
Fluticasona furoato (DPI)	100	200		
Fluticasona propionato (DPI)	100-250	>250-500	>500	
Fluticasona propionato (IDM, particula estandar, HFA)	100-250	>250-500	>500	
Mometasona furoato (DPI)	Ver información del producto			
Mometasona furoato (IDM, particula estandar, HFA)	200-400	>400		

## SEGUIMIENTO Y CONTROL

## SEGUIMIENTO

- ☐ De forma inicial citar cada 1-3 meses
- ☐ Una vez estabilizados, evaluar función pulmonar cada 3-12 meses
- ☐ Posteriormente cada 1-2 años

Educación continua del paciente

Volver a estadificar si es necesario

### SEVERIDAD DEL ASMA

#### Grave

No controlada a pesar del tratamiento con altas dosis de ICS-LABA o que requiera altas dosis de los mismos para evitar descontrol.

#### Moderada

Bien controlada con paso 30 4 (dosis baja o media de ICS-LABA

#### Leve

Bien controlada con dosis baja de ICS-formoterol o ICS en dosis baja + SABA a necesidad

Investigación de pacientes con pobre control de síntomas / exacerbaciones

Observar técnica

- Mostrar técnica correcta 3 veces
- Valorar cada visita

Confirmar dx

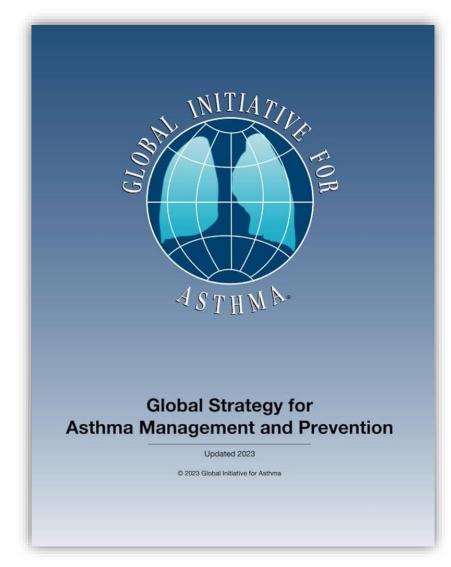
Considerar diagnósticos diferenciales Eliminar FR

Tabaco, BB. AINES, exposicion a alergenos

Escalonamiento

 Próximo nivel o referencia a un especialista

## BIBLIOGRAFIA



Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2023. Updated July 2023. Available from: www.ginasthma.org

#### PRIMER

#### **Asthma**

Stephen T. Holgate<sup>1</sup>, Sally Wenzel<sup>2</sup>, Dirkje S. Postma<sup>3</sup>, Scott T. Weiss<sup>4</sup>, Harald Renz<sup>5</sup> and Peter D. Slu<sup>6</sup>

Abstract | Asthma is the most common inflammatory disease of the lungs. The prevalence of asthma is increasing in many parts of the world that have adopted aspects of the Western lifestyle, and the disease poses a substantial global health and economic burden. Asthma involves both the large-conducting and the small-conducting airways, and is characterized by a combination of inflammation and structural remodelling that might begin in utero. Disease progression occurs in the context of a developmental background in which the postnatal acquisition of asthma is strongly linked with allergic sensitization. Most asthma cases follow a variable course, involving viral-induced wheezing and allergen sensitization, that is associated with various underlying mechanisms (or endotypes) that can differ between individuals. Each set of endotypes, in turn, produces specific asthma characteristics that evolve across the lifecourse of the patient. Strong genetic and environmental drivers of asthma interconnect through novel epigenetic mechanisms that operate prenatally and throughout childhood. Asthma can spontaneously remit or begin de novo in adulthood, and the factors that lead to the emergence and regression of asthma, irrespective of age, are poorly understood. Nonetheless, there is mounting evidence that supports a primary role for structural changes in the airways with asthma acquisition, on which altered innate immune mechanisms and microbiota interactions are superimposed. On the basis of the identification of new causative pathways, the subphenotyping of asthma across the lifecourse of patients is paving the way for more-personalized and precise pathway-specific approaches for the prevention and treatment of asthma, creating the real possibility of total prevention and cure for this chronic inflammatory disease.

Prevention by the Global Initiative for Asthma (GINA) conditions of inflammation. defined asthma as a heterogeneous disease characterized of the patient1. Asthma involves a history of respiratory gastro-oesophageal reflux and psychiatric conditions6. obstruction. This decline is especially prominent in acquisition of immunological tolerance late-onset asthma3. The origin and severity of asthma

In both adults and children, asthma has been tradi-

Correspondence to S.T.H.

Clinical and Experimental

Building, Southampton

Article number: 15025

10 September 2015

Sciences, Mail Point 810, Level F. Sir Henru Wellcome

Southampton, SO16 6YD,

doi:10.1038/nrdp.2015.25

e-mail: s.holgate@

soton ac uk

The 2015 Global Strategy for Asthma Management and of the anti-bronchoconstrictor prostaglandin E, under

Asthma is often accompanied by co-morbidities by chronic airway inflammation and variable remodel- including multi-organ allergies, such as allergic rhiniling that results in a range of clinical presentations, treatment responses and natural history across the lifecourse as well as non-allergic disorders, such as obesity, symptoms — including wheeze, shortness of breath, Asthma is subject to periods of rapid deterioration (or chest tightness and cough — that vary over time and in exacerbations) that are provoked by viral infection and intensity, variable expiratory airflow limitation and air- exposure to allergens, air pollutants and certain drugs way hyper-responsiveness to a range of stimuli, such as such as aspirin and other NSAIDs<sup>7</sup>. In addition, cerexercise and inhaled irritants. At the population level, tain types of asthma can enter spontaneous remission a subset of individuals with asthma exhibit an acceler- (that is, patients become symptom-free), such as durated decline in lung function over their lifetime2, which, ing late childhood and adolescence8, and can respond in severe chronic disease, manifests as fixed airflow to allergen-specific immunotherapy through the

are driven by strong genetic and environmental factors. tionally classified by either symptom severity or the extent Although most cases of asthma begin in childhood in of disease control achieved using a stepwise management association with IgE-dependent sensitization to common process, in which patients are grouped into one of four environmental allergens<sup>4</sup>, asthma can also emerge later or five categories that are used to determine treatment in life. Adult-onset asthma often occurs in the absence requirements with controller drugs. These drugs include of allergy but can be accompanied by intolerance to inhaled corticosteroids (ICSs), long-acting β,-adrenergic NSAIDs, rhinosinusitis and nasal polyps<sup>5</sup>. Intolerance receptor agonists (LABAs), long-acting muscarinic to NSAIDs most likely results from reduced production antagonists, leukotriene receptor antagonists (LTRAs)

Holgate, S., Wenzel, S., Postma, D. et al. Asma. Nat Rev Dis Primers 1, 15025 (2015). https://doi.org/10.1038/nrdp.2015.25

# INVUNO



# aprence

# IGRACIAS POR VERELVIDEO! LIKEY SUSCRIBETE







## **EXACERBACIÓN**

