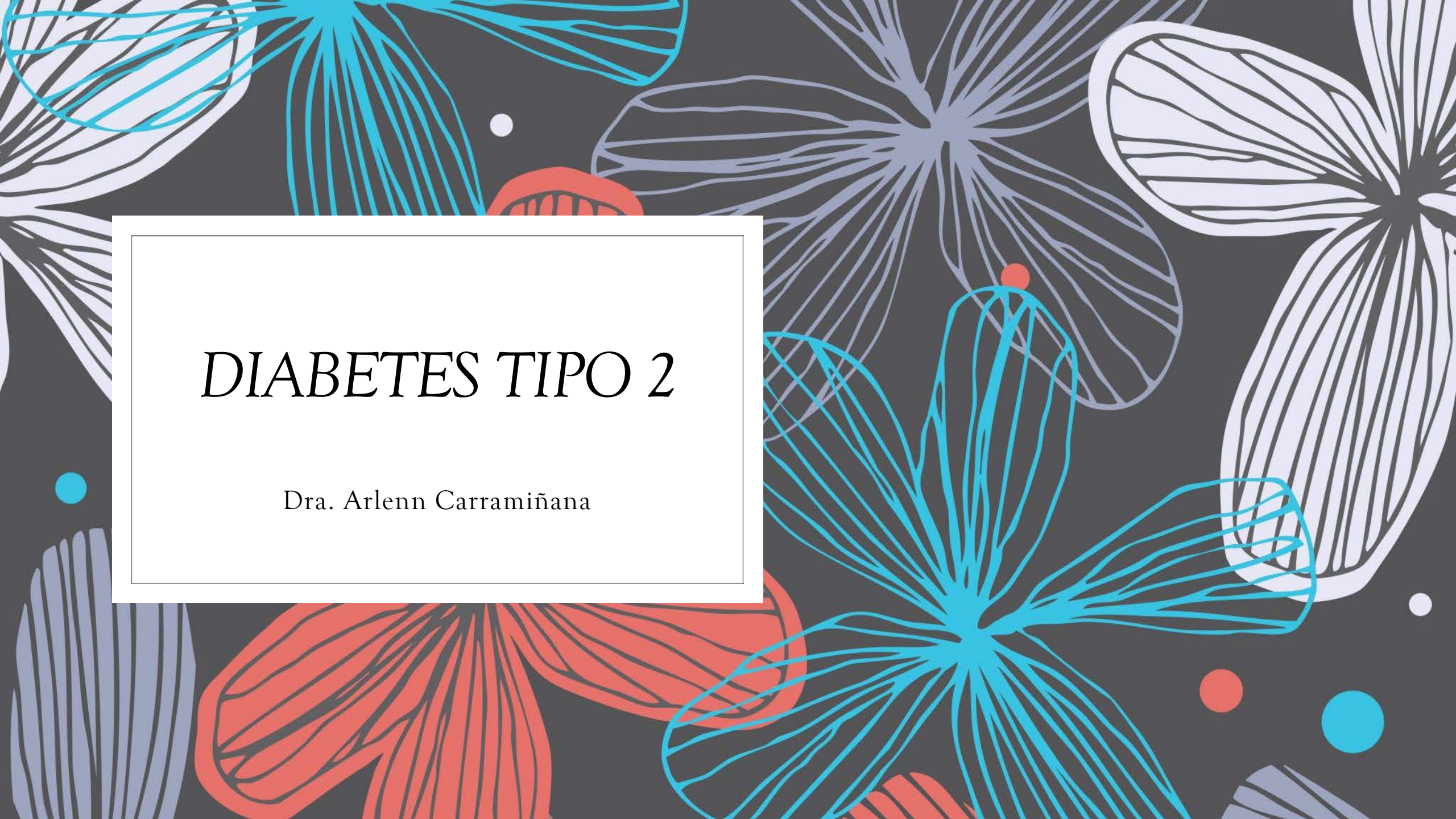


The background of the slide is a dark grey-blue field filled with stylized, hand-drawn floral motifs. These motifs include large, multi-petaled flowers in shades of light blue, white, and red, as well as smaller, simpler floral shapes. Interspersed among the flowers are small, solid-colored circles in blue, red, and white. The overall style is modern and artistic.

# *DIABETES TIPO 2*

Dra. Arlenn Carramiñana

# *Hoja de Ruta*

Introducción

Epidemiología

Fisiopatología

Diagnostico

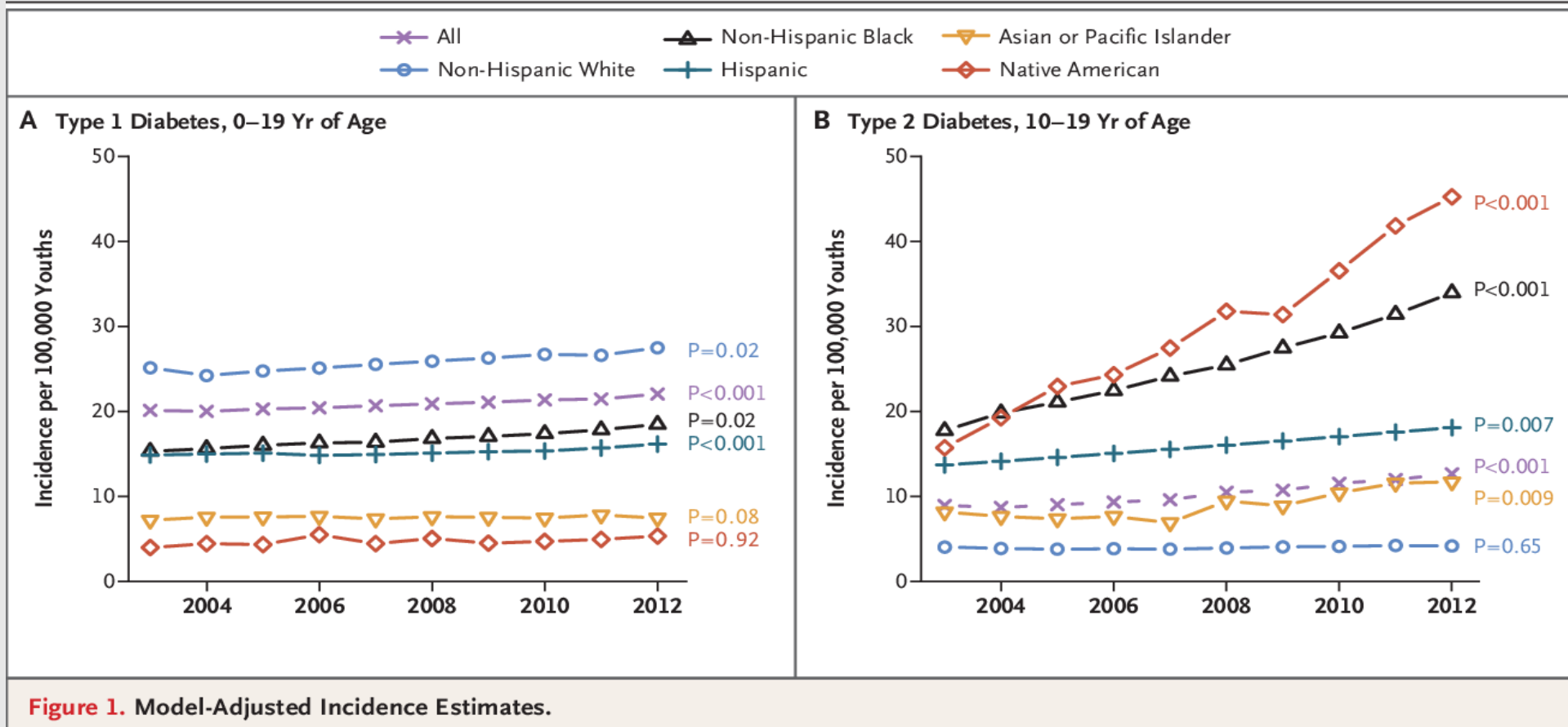
Tratamiento

Conclusiones

# *Introducción*

- DM2 ha ido aumentando en niños y adolescentes en los últimos años
- Esto se ha visto relacionado con el aumento de obesidad
- Problema es cuando llegamos al diagnóstico ya estamos tarde ya que el DM2 lleva consigo daño endotelial micro y macrovascular

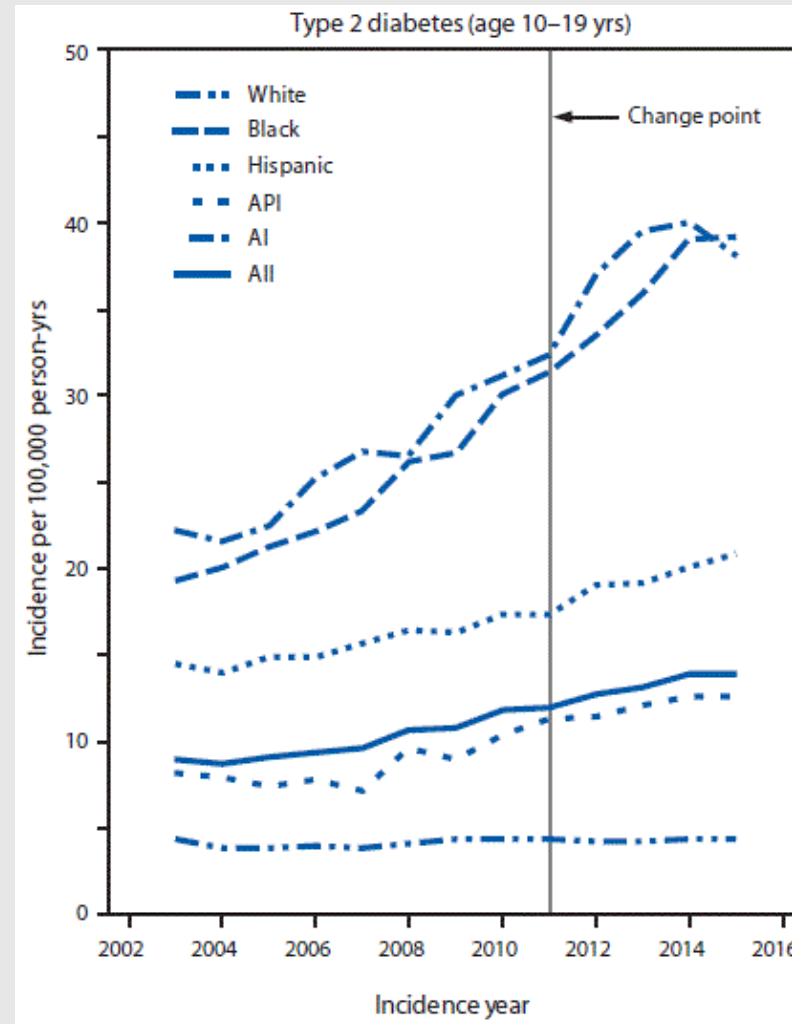
# Epidemiologia



Adjustado por  
edad, sexo y etnia  
+ 4.8%  
Mujeres + 6.1%

Mayer-Davis, E. et al. "Incidence Trends of Type 1 and Type 2 Diabetes among Youths, 2002–2012." *The New England Journal of Medicine* 376 (2017): 1419–1429.

# Epidemiologia



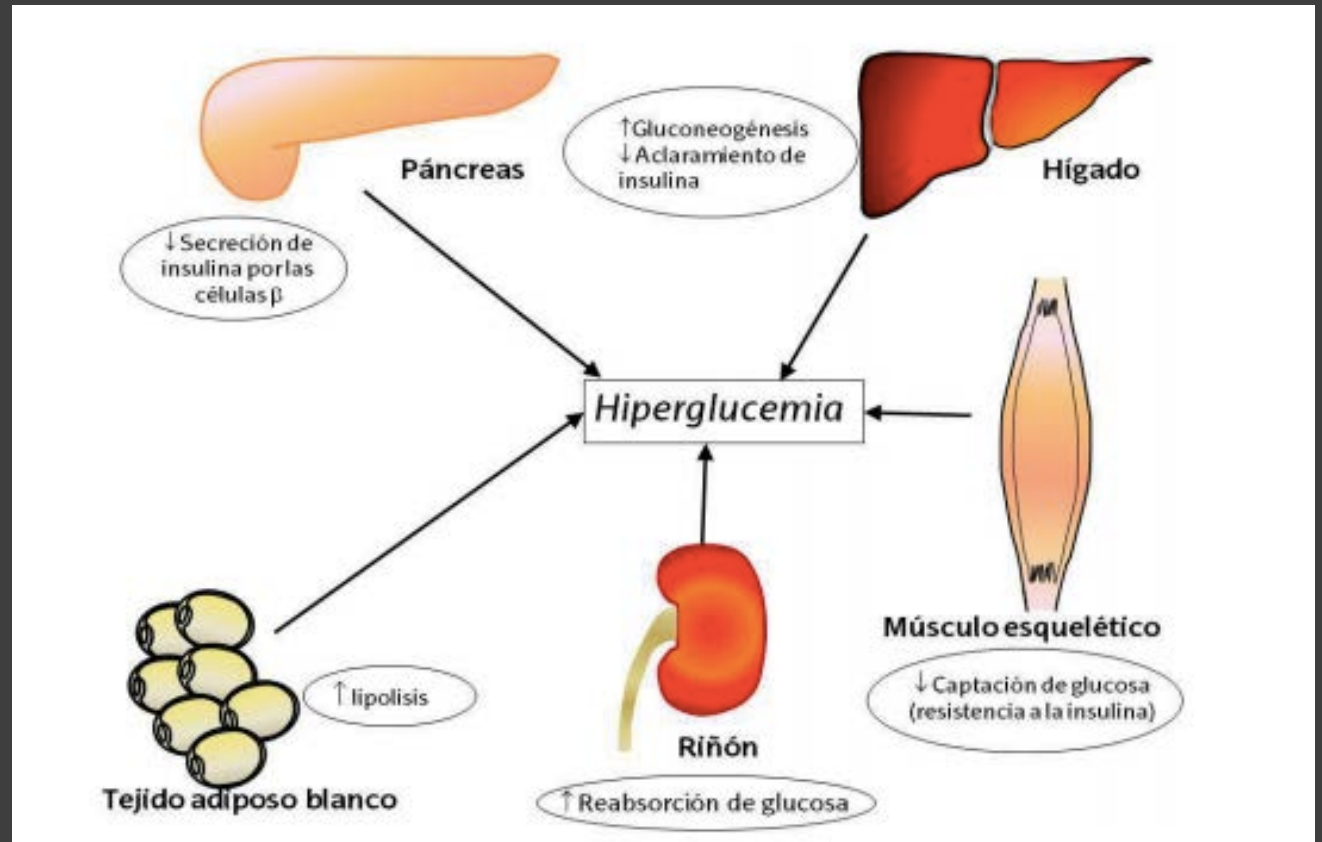
Divers J, Mayer-Davis EJ, Lawrence JM, et al. Trends in Incidence of Type 1 and Type 2 Diabetes Among Youths – Selected Counties and Indian Reservations, United States, 2002–2015. MMWR Morb Mortal Wkly Rep 2020;69:161–165. DOI: [http://dx.doi.org/10.15585/mmwr.mm6906a3external\\_icon](http://dx.doi.org/10.15585/mmwr.mm6906a3external_icon).

# Epidemiologia

|                                |                          |
|--------------------------------|--------------------------|
| <b>Age</b>                     | <b>14.0 (12,16)</b>      |
| <b>Duration of DM (months)</b> | <b>5 (4,9)</b>           |
| <b>BMI Z-score</b>             | <b>2.21 (1.89, 2.47)</b> |
| <b>Tanner 4/5</b>              | <b>83.9%</b>             |
| <b>Female</b>                  | <b>64.9%</b>             |
| <b>Ethnicity</b>               |                          |
| White                          | 19.9%                    |
| Hispanic                       | 42.2%                    |
| AA                             | 31.6%                    |
| AI                             | 6.2%                     |
| <b>FH diabetes</b>             |                          |
| Nuclear                        | 59.6%                    |
| Nuclear + GP                   | 89.4%                    |
| <b>GDM</b>                     | <b>33.3%</b>             |

|                           |       |
|---------------------------|-------|
| <b>Lives with</b>         |       |
| Both parents              | 38.7% |
| Mother                    | 47.0% |
| Father                    | 5.1%  |
| Neither                   | 9.2%  |
| <b>Parental Education</b> |       |
| HS or less                | 26.3% |
| College or more           | 16.8% |
| <b>Income</b>             |       |
| < 25k                     | 41.4% |
| > 50k                     | 24.9% |

# FISIOPATOLOGIA



# A QUIENES ESTUDIAMOS?

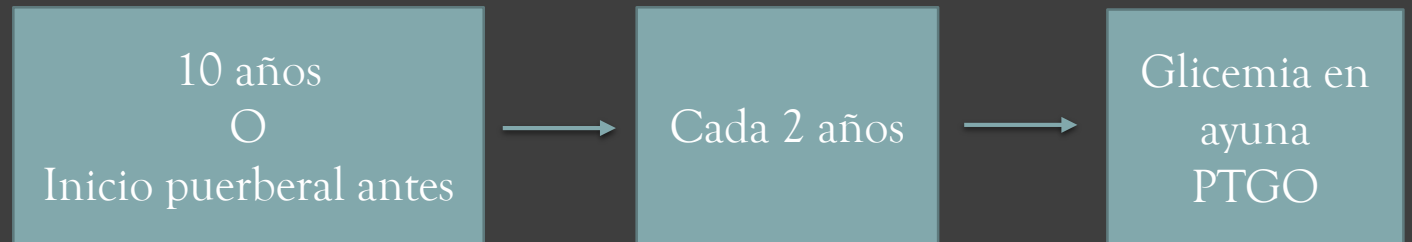
**Table 1—Risk-based screening for type 2 diabetes or prediabetes in asymptomatic children and adolescents\* in a clinical setting**

**Criteria**

Testing should be considered in youth\* who are overweight ( $\geq 85\%$ ) or obese ( $\geq 95\%$ ) **A** and who have one or more additional risk factors based on the strength of their association with diabetes:

- Maternal history of diabetes or GDM during the child's gestation **A**
- Family history of type 2 diabetes in first- or second-degree relative **A**
- Race/ethnicity (Native American, African American, Latino, Asian American, Pacific Islander) **A**
- Signs of insulin resistance or conditions associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidemia, polycystic ovary syndrome, or small-for-gestational-age birth weight) **B**

\*After the onset of puberty or after 10 years of age, whichever occurs earlier.



# Diagnostico

|                              | Glicemia en ayuno | Post Carga (2hrs) |
|------------------------------|-------------------|-------------------|
| Normal                       | < 100mg/dl        | <140 mg/dl        |
| Alteracion glicemia en ayuno | 100-125 mg/dl     |                   |
| Intolerancia a la glucosa    |                   | 140-199mg/dl      |
| diabetes                     | >126 mg/dl        | >200mg/dl         |

# *Tratamiento*

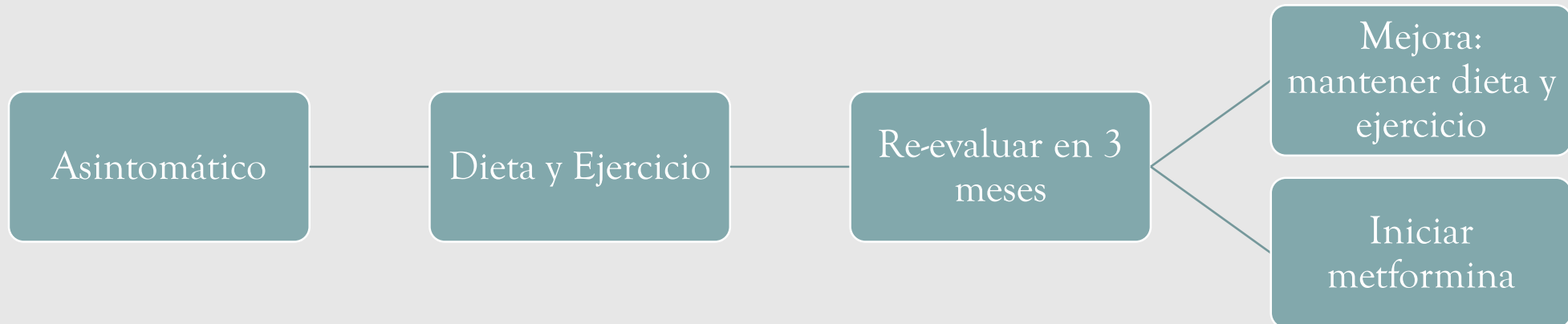
## Objetivos

- Pérdida de peso
- Aumentar la capacidad de ejercicio
- Normalizar la glicemia
- Control de comorbilidades
  - HTA
  - Dislipidemia
  - Nefropatía
  - Esteatosis hepática

# Tratamiento

| International society of pediatrics and adolescente diabetes                                                                                                                             | American diabetes association                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <p>Optimo &lt; 7.5%</p> <ul style="list-style-type: none"><li>• Preprandial AM 70 - 145</li><li>• Postprandial 90-180</li><li>• Acostarse 80 - 100</li><li>• Nocturna 80 - 160</li></ul> | <p>Optimo &lt; 7.5%</p> <ul style="list-style-type: none"><li>• Preprandial 90 - 130</li><li>• Acostarse 90 - 150</li></ul> |

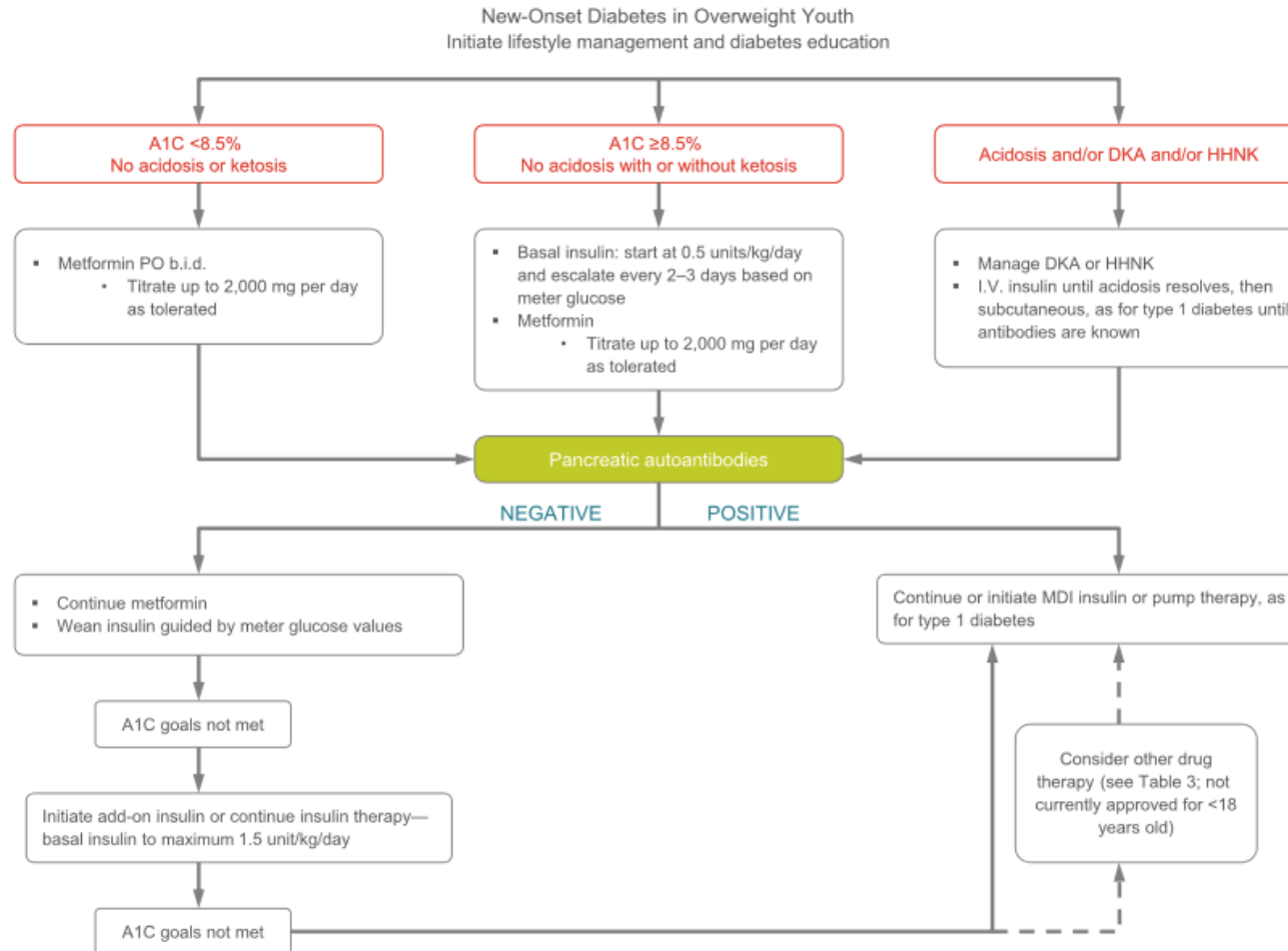
# Tratamiento



Como iniciar metformina:

- 250 mg/ día x 3 a 4 días, si tolera
- 250 mg c/12 hrs,
- seguir así x 3 a 4 semanas hasta dosis máxima
- 1000 mg c/ 12 hrs

# TRATAMIENTO



# Complicaciones

| Nefropatia                                                                                                                                                                         | Neuropatia                                                                                                                         | Retinopatia                                                          | Dislipidemia                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <p>Tomar PA cada control</p> <p>Sí PA &gt; p95 para la edad/sexo/talla repetir en 6 meses y si aun elevada iniciar antiHTA</p> <p>Primer control tomar IP/C y luego anualmente</p> | <p>Debe ser evaluado al momento del diagnostico y luego anualmente (pulso pedio, ROT de EEII, prueba de sensacion y vibracion)</p> | <p>Realizar fondo de ojo al momento del diagnostico y anualmente</p> | <p>Metas optimas:</p> <p>LDL &lt; 100 mg/dL</p> <p>HDL &gt;35 mg/dL</p> <p>Triglycerides &lt;150 mg/dL</p> |

# Conclusion

- DM2 esta aumentando en niños y adolescentes, en paralelo a la epidemia de Obesidad
- Afecta especialmente minorias étnicas, familias rotas y en situación de pobreza
- Presenta mas riesgos, menor sobrevida y mas complicaciones que la DM1
- Su evolución presenta rápida acumulación de factores de riesgo CV
- Es una enfermedad diferente a DM2 del adulto, bastante mas agresiva y con necesidad mas precoz de Insulina
- El tratamiento de DM2 es similar a adultos pero con menos alternativas de drogas y peor resultado
- Cambio de estilo de vida es difícil de lograr
- Estudio doble ciego controlado de uso Metformina en niños con DM2 demostró ser una droga segura y efectiva al menos inicialmente

# Bibliografia

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- Mayer-Davis, E. et al. “Incidence Trends of Type 1 and Type 2 Diabetes among Youths, 2002–2012.” *The New England Journal of Medicine* 376 (2017): 1419–1429.
- Divers J, Mayer-Davis EJ, Lawrence JM, et al. Trends in Incidence of Type 1 and Type 2 Diabetes Among Youths – Selected Counties and Indian Reservations, United States, 2002–2015. *MMWR Morb Mortal Wkly Rep* 2020;69:161–165. DOI: [http://dx.doi.org/10.15585/mmwr.mm6906a3external icon](http://dx.doi.org/10.15585/mmwr.mm6906a3external%20icon).