

Introduction

The Texas Risk Assessment for Type 2 Diabetes in Children (TRAT2DC) is a legislative mandated program developed, coordinated, and administrated by The University of Texas Pan-American Border Health Office

The program assesses children who may be at high risk to develop type 2 diabetes in Education Service Center Regions 1, 2, 3, 4, 10, 11, 13, 15, 18, 19, and 20, impacting 1.1 million children yearly

Introduction

- During vision/hearing and scoliosis screenings of 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> graders in public and private schools, certified individuals assess children for the acanthosis nigricans (AN) marker
- Children who are identified with the AN marker undergo additional assessments of body mass index (BMI), BMI percentile and blood pressure

# **TRAT2DC** and the School Nurse

- The TRAT2DC program educates, trains, and certifies school nurses, or other individuals who are qualified to become proficient in conducting these assessments
- Along with conducting the risk assessment, school nurses are also a valuable resource because they can provide parents with additional information about the health risks associated with type 2 diabetes, develop an action plan for behavior change, and connect the family to medical care in the community

## ICD-9 Code 701.2 Acquired AN Member Claims Among Children 0-17 Years Old



Impact of Program

#### **Midland ISD Steps Program**

#### Midland ISD Steps Program

By Cathy Harris, Health Services Supervisor, Midland ISD

(The Midland ISD Steps Program is one of ten 2003/04 Awards for Excellence in Texas School Health award winners. Midland ISD has won a \$1,000 award form for Face Redatic Society Roundation for promoting increased nutrition and physical activity among addisecents. Awards for Excellence winners will be honored on January 28, 2005 at the Texas School Health Association Conference In Texno, Texas)

The idea for the Midland ISD Staps Program arose there we referred 307 students in Middand ISD for referred hat a Boly Mass Index of 30 present: example and a Boly Mass Index of 30 present: and a student student in the students of the children lose weight, the tits of Glautets, some cancers and cardiad clauses in reduced. When we referred students with these factors, physicians fift ther hands or cardiad clauses in reduced. When we referred students with these factors, physicians fift ther hands or cardiad clauses in reduced. When we referred students with these factors, physicians fift ther hands or only and the distribution of the students of the externet of the students in the students of the index more than the section section of the students index more than the student section sections of the index more than the student section sections. The but there installed student is on the last that the program was initiated success in the school setting and support on-going firstly participation.

For the Micland ISD Steps Program, participants measured their activity through percent use of a pedometer to attain 10,000 steps a day. Participants were taught to control their action triable by watching serving sizes and eating "5-9 thuil and vegetable servings a day." We conducted awareness sessions, provided tools for tracking progress and a calendar of events for family participation. We have consider the service for Life" program on a servester basis.

The goal was to Walk Across America (16,028,000 steps) in one semester. Students, families, staff, and friends logged in their steps at the campus of their choice. By the second semester, some campuses logged in enough steps to measure across America 3 to 5 times!

We sponsored special eality presents throughout the sementer: Each preticipant could by an additional 10.000 steps for participant in an event, such as the Waik To School Day, Annorcan Henhanda, Dialatele Waik, Janicr Achievement Waik, Juveriei Dialotes Waik and Reary For Line. We also stepped of many of the Midland Clip Patik, so that if someone din not have a pedimeter, days and the 23-midle club so that tablem could get stepped using Nather Clip Clip States and the second and waiked with their children on those days. Ve demonstrated healthy food options by incorporating the American Cancer Society's Meeting Weit

Society's Meeting well menus at our PTA presentations. By the end of the year the Midland ISD Steps Program documented the following accomplishments:

 We have parents and students waiking together.
 We have managed to get both students that have pienty of physical activity and students that were sederatary warning to participate. As a result, students that are oblese do not we single other than the coordinated school health model, so that each department contributes and benefits.

 We have implemented the coordinated school health model, so that each department contributes and benefits.
 By drying to meet the needs of 307 students who were referred for Aparthosis Napricans, we achially had 0,918 participatings A38 students, 215 staff and 1,844 parents and community members.
 We aver definited with the interacted extensions from

and community memoers. • We were dilighted with the unexpected response from people living in the community that did not have students in school, but still wanted to purchase a pediometer and log in steps. One of the participants even cimbed bit kilimanjaro and logged in her steps at one of the campuses!

For more information about the Steps Program, contact Cathy Harris, RN, BSN at caharris@esc18.net or by phone at (432) 689-1015.

> Awards for Excellence in Texas School Health

as your school or district implemented a program to ddress health needs of your students or staff? Awards re Excellence honors and awards schooladistricts in exas that are promoting the lifelong health of students nd/or staff through effective health promotion initiaves. Awards for Excellence offers:

Excellence Awards - \$1,500 Outstanding Awards - \$1,000 Texas Pediatric Society Foundation Awards -Previous Winner Awards - \$1,200 All Well Institute Award - Free Registration

For more information and to obtain an application for a award, vinit www.tdh.state.tx.as/school/weithe awards.htm or call 1-388-587-111, etc. 7279. Awards for Excelence is sponsored by the Texas Hea Foundation and administered by the Department of State Health Services.

December 2004 Texas School Health Bulletin

 To help reduce childhood obesity among students in Midland ISD through a 12-week walking program

Goal: 16,028,000 steps

9,918 participants (included students, parents, teachers and community members)

# Impact of Program



#### Laredo ISD

- Utilize the outcomes from the Risk Factor Electronic System (RFES) to combat childhood obesity
- Provide intervention programs for students identified with AN and a high BMI
- LISD school board increased physical activity by 15 minutes each day for elementary and middle school students

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Impact of Program



 Collaborated with Gateway Community Health Center in which the center provides a family-based weight management program

Focuses on:

- Healthy eating
- Active living
- Self esteem



# History of Program



### House Bill 1860 (1999)

### House Bill 2989 (2001)

House Bill 2721 (2003 & 2005)

### Senate Bill 415 (2007)

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### Legislative Reports





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## **Risk Assessment Process**

# **Risk Assessment Process**

- During vision/hearing and scoliosis screenings of 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup> and 9<sup>th</sup> graders in public and private schools, certified individuals assess children for the AN marker, a skin condition that signals high insulin levels
- Children who are identified with the AN marker undergo additional assessments of BMI, BMI percentile, and blood pressure
- Certified individuals make medical referrals for children with AN, which include BMI, BMI percentile, and blood pressure

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### **Risk Assessment Process**

- Risk assessment referrals are issued to the parents of these children, alerting each parent of their child's risk factors and encouraging further evaluation from a health professional
- Becoming aware of and understanding what the risk factors suggest can stimulate the changes necessary to prevent or delay future health problems for children at risk of developing type 2 diabetes and other conditions

# Health and Safety Code

The TRAT2DC is under the Texas Health and Safety Code Sections 95.002, 95.003 and 95.004

> For more information: http://tlo2.tlc.state.tx.us/statutes/hs.toc.htm

# HIPAA Privacy Rule

The TRAT2DC is in compliance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy Rule under the following sections:

- § 164.512 Uses and disclosures for which an authorization or opportunity to agree or object is not required
  - A covered entity may use or disclose protected health information to the extent that such use or disclosure is required by law and the use or disclosure complies with and is limited to the relevant requirements of such law.
  - (i) A public health authority that is authorized by law to collect or receive such information for the purpose of preventing or controlling disease, injury, or disability

#### For more information:

http://www.hhs.gov/ocr/privacy/hipaa/understanding/index.html

# Acanthosis Nigricans (AN)

- AN is a cutaneous marker associated with hyperinsulinemia and insulin resistance and is considered a risk factor for type 2 diabetes and other chronic diseases
- Because of the increasingly alarming rates of children developing type 2 diabetes, AN assessments are important and can help identify children with high insulin levels who may be at risk for developing the disease
- Children who are identified with the AN marker undergo additional assessments of body mass index (BMI), BMI percentile, and blood pressure

## **Defining Acanthosis Nigricans**

- Brown to black, rough or velvety marker
- AN is most frequently seen on neck, but may also be found in the axillae, abdomen, elbows, knees, or soles of feet



## **Defining Acanthosis Nigricans**

- AN results from hyperinsulinemia, a compensatory result of insulin resistance, creating the risk for pancreatic exhaustion
- Strong relationship between hyperinsulinemia and obesity, including other conditions





## **Defining Acanthosis Nigricans**

- Term coined by dermatologist, Paul Gerson Unna in 1889
- Assessing for AN is performed by visually examining and palpating the marker





Significance of Acanthosis Nigricans Over the years studies have shown:

- AN has been found to be a significant finding in overweight African-American and Hispanic youth
- AN can be used to rapidly identify those patients with multiple risk factors for type 2 diabetes
- Detection of AN may also enhance patient and clinician receptivity to discussing risk reduction
- Using AN status in addition to BMI as a selection criteria appears as reliable means for initial screening to reduce the incidence of cardiovascular disease and type 2 diabetes

## **Children with Acanthosis Nigricans**

# Once a child is identified with AN, the following assessments are conducted:

- Body Mass Index (BMI)
- Blood pressure (BP)







# Body Mass Index (BMI)

- BMI is a measurement that helps determine overweight status by using a mathematical formula that takes into account a child's height and weight
- After BMI is calculated for children and adolescents with AN, the BMI number is plotted on Centers for Disease Control and Prevention (CDC) BMI-for-age growth charts

Defining Children's BMI

#### Obesity: BMI $\geq$ to 95 percentile

 A child with a BMI equal or greater to the 95th percentile should undergo an in-depth medical assessment. Use of this percentile identifies children who will have a greater chance of maintaining obesity into adulthood. This is also significant as studies have shown that BMI above the 95th percentile is associated with elevated blood pressure, hyperlipidemia, and obesity-related disease and mortality.

Barlow, SE, Expert Committee. Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report. *Pediatrics.* 2007; 120;S164-S192

# Defining Children's BMI

#### **Overweight: BMI 85th to 94th percentile**

 A child whose BMI falls at the 85th to the 94th percentile should be evaluated carefully and should be given particular attention to secondary complications of obesity.

Barlow, SE, Expert Committee. Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report. *Pediatrics*. 2007; 120;S164-S192

# **Guidelines for Collecting Heights**



#### **Procedure to measure height:**

- 1. Before you begin, ask child to remove shoes, hat, and bulky clothes.
- Direct the child to stand erect with shoulders level, hands at sides, thighs together, and weight evenly distributed on both feet.

University of California Berkeley, Center for Weight and Health, College of Natural Resources, 2000

## **Guidelines for Collecting Heights**



University of California Berkeley, Center for Weight and Health, College of Natural Resources, 2000

### Procedure to measure height:

- 3. Ask the child to adjust the angle of his/her head by moving the chin up or down in order to align head into the Frankfort Plane.
- 4. Ask child to maintain his/her position.
- 5. Record height to the nearest 1/8<sup>th</sup> inch.

## **Guidelines for Collecting Weights**



University of California Berkeley, Center for Weight and Health, College of Natural Resources, 2000

#### **Procedure to measure weight:**

- 1. Ask child to remove outer clothing and shoes.
- 2. Place the scale in the "zero" position before the child steps on the scale.
- 3. Ask the child to stand still with both feet in the center of the platform.
- Record the measurement to the nearest ¼ lbs.

## **BMI Categories for Children**

Obesity (BMI ≥ to 95 percentile)

0

- ow Overweight (BMI 85<sup>th</sup> to 94<sup>th</sup> percentile)
- Normal Weight (BMI 5<sup>th</sup> to 84<sup>th</sup> percentile)
- Underweight (Less than the 5<sup>th</sup> percentile)



CDC Congressional Testimony on new definitions of Body Mass Index Categories, September 2008

# BMI Examples

#### 10 year old Boy

- Weight: 100 lbs
- Height: 56.25
- BMI = 22.25
- BMI Level:
   Obesity



### 10 year old Girl

Weight: 100 lbs

Height: 56.25
BMI = 22.25

BMI Level:
 Overweight



# Blood Pressure (BP)

- Hypertension increases the risk for cardiovascular disease and is a complication of obesity
- Hypertension has also been associated with insulin resistance and hyperinsulinemia
- Elevated blood pressure in childhood correlates with hypertension in early adulthood, supporting the need to track blood pressure in children

#### pe 🖌 Plabetes in Children

### **BP Measurement Guidelines**

- Correct measurement requires appropriate size cuff
- Right arm is preferred for consistency
- Blood pressure should be recorded twice
- Measure in controlled environment after 3-5 minutes of rest



Pediatrics. The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. 2004; 114(2): 555-576.

## **BP Categories for Children**

 Child's age and height percentile is used to determine systolic and diastolic pressures





Pediatrics. The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. 2004; 114(2): 555-576.

BP Examples

#### 10 year old Boy

- Height: 56.25 in
- 1<sup>st</sup> BP reading: 116/78
- 2<sup>nd</sup> BP reading: 117/80
- BP Average: 116.5/79
- BP Category:

**Pre-hypertensive** 

#### 10 year old Girl

- Height: 56.25 in
- 1<sup>st</sup> BP reading: 116/78
- 2<sup>nd</sup> BP reading: 117/80
- BP Average: 116.5/79
- BP Category: *Hypertensive*

### Abe > maneres in conducer Reporting

The following is recorded into the RFES, https://rfes.utpa.edu

- Date of birth (age)
- Sex
- Race/Ethnicity
- Weight (lbs.)
- Height (in.)

- AN present (yes or no)
  - Two BP readings
- Seen by a physician (yes or no)
- Received treatment (yes or no)

#### Submit information by March 31, of current year

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ANTES: Acanthosis Nigricans The Education and Screening Program

#### Children's Blood Pressure (BP) Categories

- Use tables adjusted for heights and weight for boys and girls
- Use child's age and height percentile to determine systolic and diastolic pressures

ا 90 <sup>th</sup> >	Normal <sup>1</sup> percer	ntile		90 <sup>th</sup>	Preh <sup>•</sup> to <	ype < 95 <sup>t</sup>	rte <sup>h</sup> p	nsio erce	n ntile		 	Hype 95 <sup>th</sup>	rter perc	nsic cen	on tile
Age/He	ight Adjus	sted E	3P ta	ble											
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AGE	BP%-ile	<u>Sy</u>	stolic	BP b	y heig	ht %-il	e		Di	<u>astol</u>	ic BP	by he	ight %	<mark>6-ile</mark>	
		5%	10%	5 <b>25</b> %	<mark>6 50%</mark>	75%	90%	<b>6 95%</b>	5%	10%	<mark>6 25</mark> 9	<mark>% 50%</mark>	75%	90%	<b>6 95%</b>
	50 <sup>th</sup>	97	98	100	102	103	<mark>105</mark>	106	58	59	60	61	61	62	63
10	90 <sup>th</sup>	111	112	114	115	<b>117</b> '	119	119	73	73	74	75	76	77	78
	95 <sup>th</sup>	115	116	117	119	121	122	123	77	78	79	80	81	81	82
	99 <sup>th</sup>	122	123	125	127	128	130	130	85	86	86	88	88	89	90

**<u>Result:</u>** Child's Systolic and Diastolic BP hypertensive because both fall above

the 95<sup>th</sup> percentile ---

# Referral Letter

- Certified individuals make medical referrals for children with AN, which include BMI, BMI percentile, and blood pressure
- Risk assessment referrals are issued to the parents of these children, alerting each parent of their child's risk factors and encouraging further evaluation from a health professional
- Becoming aware of and understanding what the risk factors suggest can stimulate the changes necessary to prevent or delay future health problems for children at risk of developing type 2 diabetes and other conditions

Referral Letter The referral letter must include:

- Process of the risk assessment
- Reasons the individual was identified
- The risks associated with type 2 diabetes

 Statement concerning an individual's or family's need for further evaluation for type 2 diabetes and related conditions

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**Referral Letter** 

The referral letter must include:

- Instructions to help the individual or family receive evaluation by physician or health care provider
- Information on procedures for applying for the state child health plan program and the state Medicaid program

# **Referral Materials**

#### **Texas Risk Assessment** for Type 2 Diabetes in Children **Understanding Risk Factors for Children** At Risk of Developing Type 2 Diabetes



Programa de Detección de **Riesgos de la Diabetes Tipo 2** en Niños del Estado de Texas Conozca los Riesgos Asociados con el Desarrollo de la Diabetes Tipo 2 en Niños

#### **Risk Assessment Brochure**

#### Texas Risk Assessme for Type 2 Diabetes in Children

The Texas Risk Assessment for type 2 diabetes in children is a state-mandated program that helps assess children who may be at high risk to develop type 2 diabetes. This assessment is conducted by certified individuals in public and private schools during vision/hearing and scollosis screenings. Children enrolled in 1st, 3rd, 5th, 7th, and 9th grades are assessed for the acanthosis nigricans marker, a skin marker that signals high insulin levels. Children who are identified with the marker are also assessed for body mass index (BMI) and blood pressure. Risk assessments are issued to the parents of these children, alerting parents of the child's risk factors and encouraging further evaluation from a health professional.

The Texas Risk Assessment for type 2 diabetes in children is an important program because it can help identify children who have these risk factors, all of which can increase the provide a start of the start of

#### Programa de Detección de Riesgos de la Diabetes Tipo 2 en Niños del Estado de Texas

La detección de riesgos de la diabetes tipo 2 en niños del La decición de resido de la diadeció que 2 en minos de estado de Texas es una orden legislativa con el propósito de prevenir el desarrollo de ésta enfermedad. La evaluación se lleva a cabo por personal escolar durante la revisión de vistación y escollosis (espina dorsal) en escuelas públicas privadas entro., 3ro., 5to., 7mo. y 9no. grado. Cuando se detecta un niño con la marca de Acanthosis Nigricans (AN) también se toman medidas para determinar el índice de masa corporal y el nivel de la presión arterial. Los resultados se envian a los padres de los niños detectados recomendándoles buscar atención médica.

Este programa ayuda a detectar factores de riesgos asociados con el desarrollo de la diabete: tipo 2 y su prevención.

#### Acanthosis Nigricans

Acanthosis nigricans (AN) is a skin marker associated with high insulin levels and insulin resistance and is considered a risk factor for type 2 diabetes and other chronic diseases. Insulin is produced by an organ called the pancreas. Insulin is important because it helps "carry" glucose to cells in the body. Glucose is the energy that cells need in order for them to function. High insulin levels indicate that the pancreas may be producing too much insulin, and through time, can stop producing enough insulin to take glucose to the cells in the body

Because of the increasingly alarming rates of children developing type 2 diabetes, AN assessments are important and can help identify children with high insulin levels who may be at-risk for developing the disease



#### **Acanthosis Nigricans**

La Acanthosis Nigricans (AN) son marcas en la piel de color oscuro que indican resistencia a la insulina y sus altos niveles. AN se considera un factor de riesgo para el desarrollo de la diabetes tipo 2 y otras enfermedades crónicas. La insulina es una hormona producida por el páncreas, y su función es llevar la glucosa o azúcar a las células del cuerpo para utilizarla como energía. Altos niveles de insulina indican que el páncreas está sobre produciendo insulina. Conforme pase el tiempo, el páncreas puede dejar de producir insulina causando serios problemas de salud como la diabetes.

Debido al alarmante aumento de casos de niños con la diabetes tipo 2, es de vital importancia detectar a niños con la marca de AN porque indica alto niveles de insulina. Los niño: con AN corren mayor riesgo de desarrollar la diabetes tipo 2.

#### **Body Mass Index**

Body mass index (BMI) in children is a measurement that helps determine weight status by using a mathematical formula that takes into account a child's age, height, and weight. After the BMI is calculated, the BMI is plotted on the Centers for Disease Control and Prevention BMI-for-age growth charts.

BMI categories are identified as obese, overweight, normal, and underweight. A child whose BMI is greater or equal to the 95th percentile on the growth charts is classified as obese. This is significant as a child who falls in this category has a greater chance of maintaining obesity throughout adulthoo Studies have also shown that BMI above the 95th percentile is associated with elevated blood pressure, high lipid levels obesity-related disease and mortality. A child whose BMI falls between the 85th and 94th percentile is classified as overweight and should be evaluated carefully and given particular attention to secondary complications of obesity

#### Indice de Masa Corporal (IMC)

El índice de masa corporal (IMC) se obtiene tomando en cuenta la estatura y peso de la persona. El resultado se presenta en una grafica estándar de IMC del Control y la Prevención de Enfermedades. Las categorias IMC en niños son: obeso, sobrepeso, peso normal y bajo peso. Un niño obeso se determina cuando el indice de masa corporal es equivalente o superior al 95% en la grafica estándar IMC. Los estudios han demostrado que un niño obeso cuenta con una mayor probabilidad de convertirse en un adulto obeso. La obesidad durante la niñez se relaciona con la alta presión, los altos niveles de lipidos (grasa) y enfermedades mortales. Un niño con sobrepeso se determina cuando existe un exceso de masa corporal y el índice es entre el 85% y el 94% en la gráfica estándar IMC. Un niño con sobrepeso debe de ser evaluado cuidadosamente para evitar posibles complicaciones relacionadas con la obesidad



High blood pressure or hypertension increases the risk for cardiovascular disease and is a complication of obesity. Hypertension has also been associated with insulin resistance and hyperinsulinemia. Elevated blood pressure in childhood, correlates with hypertension in early adulthood, supporting the need to track blood pressure in children.

Certified personnel perform two blood pressure measures o children who have the acathosis nigricans marker. Blood pressure is taken on the child's right arm in a controlled environment, giving three to five minutes of resc in betwee each reading as a recommended by the Jational High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Addrescuts. The blood pressure categories are identified as hyp normal



Presión Arterial

La alta presión o hipertensión aumenta el riesgo de contrae La atta presion o inpertension aumenta el riesgo de contraler enfermedades del corazio y de las arterisas. La hipertensión también se asocia con la obesidad, resistencia a la insulina e hyperinsulmenia (altos niveles de insulina en la sangre). La alta presión durante la niñez contribuye a problemas anz presone turante sa minez construiye a proviennas cardiovascubares en la edad adulta, por lo que es importante el control de presión arterial en ninos. De acuerdo a las recomendaciones del instituto Nacional del Corazón, Pulmón y la Sangre en Ninos y Adolecentes, se toman dos medidas de presión arterial en el brazo derecho en reposos de tras a cinco minutos. La presión arterial se clasifica en: hipertensión (alta presión), pre-hipertensión (presión arriba de lo normal) y presión normal

Spanish translation courtesy of the UTPA Medical Spanish for Heritage Learners Program

40

# Referral Materials

#### **Sample Referral Letter**

School: <u>ACADEMY OF HOUSTON</u> Student's Name: John Doe Student ID <u>1234</u>	Date: <u>2/24/2006</u> Grade: <u>5</u>
Dear Parents/Estimados padres de familia;	
While observing the health of your shild, the school n should be brought to your alteration. (La enfermera de síntemes/señales que pueden ser de alto nesgo pue la	urse has noted the following symptoms/signs which la excuela ha observado los siguiences a schud de su hijo(r), requerimos de su atenciór).
"A CANTHOSIS	NIGRICANS"
A carthosis Nigricans is a light-bown to block, veiter skin. It is ristally ford a counc the neck, authean do primary marker that may signal high instilin kvels, wi into type 2 diabets. A carathosis Nigricans is sum maxia occura visible en y multike de les derons. Las manesido termitosienti y sor primeras stables para futuro (sarando la la dia Tha administra una fathura - a malenami hara	y, rong hor trickened assistance the surface of the wort to knuckets. Acardhoss hydractures can be a tich can had be insulin resistance and may develop In superficie de In piol – anteched or dol : aello, axia agreens differan ithos twicket do hordinate at compre- tableas tipo 2 y etras compriscionas para is ailed) and hordinate of
The observations are as follows: (Las observationes s	on has significates.)
Height: 54 in. Weight: 90 lbs Average Blood Pressure 116/78 Acanthosis Nigricans Exists? Yes	BME 21.72 N/A
Please take this form with you when you take your ch (Pleasente esta forma a su médico).	ild te your physician. School Nurse
	* *
The solution system would appreciate comments from a Information provided will be helpful for the name to b (Se tomaran encounts todos sus comentarios para asis)	parents and doctors regarding Acunthosis Nigricans. he ter serve your child. atir mejor la salad de sa lajo(a)).
	15.
Doctor's diagnosis, restment or/and recommendation (Disgróstico médico y/o recomendaciones)	
Doctor's diagnosis, restricest of and recommendation (Diagnostico módico y/o mecomendationes) ————————————————————————————————————	)
Dectr's diagnosis, rentraet of und recommendator (Niggródice médice y/e mermenacionat) 	i) a cé la escuela)

### **BMI Chart**



2 Diabetes in Unidren

### Fact Sheet

### **Fact Sheet Provides:**

- Total number of students assessed
- Total number of students with AN
- BMI of students with AN
- BP of students with AN

#### Type 2 Diabetes in Children Fact Sheet EGON 20 2007-2008

The Reix Assessment for Type 2 Claberak to Childrenk to legislative modular program cavelepst, coordinate, and combiners (p. 176). The University of TeacePer American Beder Halth Thice BHO). The program assesses of this we have be able to high wide of developing "ype 2 Diaberas Curring vision having and according to provide the system of the "off" of "off", "off" graders in public and provide whom the system of the sy

The following results are for the assessments conducted in your region

#### Demography



abinotisen, resign, or visit are una so ma sumas arms sin. The AN marker is important because it must often signals right insule levels createring within the body. The AN manuer is considered with factor in 1e development of Type 2 Diabetes.





A high Body Mass Incon (BMF) for grep per contribute also contrident a nich factor for the development of Type 2 Diabeter. BMF is order bled i nim the student height and valeight. The TMI percent on an stateminist by the Cartie for Discons Creter BMI is operanding contributes that the constraints are scaratical information undergoing to (Distribute). A for the development of Type 2 Diacetes, special emphasis is placed on the AF Bek of Overweight and Overweight contexpinst.

54%



# To find facts sheets, please visit our website at https://rfes.utpa.edu

2 Diabetes in Unidren

### Fact Sheet

### **Fact Sheet Provides:**

- Number of students referred
- Number of students seen by physician
- Percentage of students on free/reduced lunch

#### TPA Risk Assessment for Type 2 Diabeles in Children Fact Sheet REGION 20 2007-2003 The Firsk Assessment for Type 2 Elaberes in Ohidremis a legislatively mandated program developed, coordinated, and administered by The University of Texas-Par American Boder Health Office BHO). Theprogram assesses children who may be at high isk of dereloping Type 2 Diabetes During vision/heating and scolosis streenings of 1", 3", 5", and 7" graders in public and private schools certified individuals assess chidres for the adarthosis stations (Ak) maker, askin condition that statis sight insuln levels. Chidren who are positively identified with thermarker uncergo caditional assessments of body mass index (BMI) BMI percentile, and blood creasure. Federals a ensued to the parents of Jessechildher. They have also also accurated what the risk factors are and what changes will be necessary to prevent or delay forme health publiens for children at risk of developing Type 2 Didbetes and other health The following results are for the assessments conducted in your recion Demography Iotal Number of Students Assessed: 92.674 Number of Students Referred: 5.247 % of Students on Free and Total Number of Students with AN: 6,589 Numler of Students Seen Physician: 832 Reduced Lunch: 62.8% Acanthosis Nigricans Rinod Pressure Hypertension has also been associated with insulin resistance and hyperinguinemia, which is important for children with the AN Acanthosis nigricans (AN) is a skin condition that is frequently seen on the tape of the seck. It appears as a dark/black, rough, crivel/et/seen on the surface of the skin. The AN marker is important because it most often marker. Elevated blood pressure in childhe hypertension in early adulthood, supporting signals high insulin levels circulating within the body. The AN marker is considered with factor in the development bood messure in children o' Type 2 Diabetes. Rumber of Students with AN by Grad 2 500 2 000 1.627 1,300 1,000 54% 3rd 5th 7th Grade Srade Grade Grade Body Mass Index A right Body Mass Insur (BMR) for approximation also according to inclinate for the development of Type 2 Database. BM is according to right the utual for high producing the Table Management of a state for the Database DM is ongo percenting could have. The portrading according to the DM is ongoing the DM is a state of the DM is ongoing the DM is advecting the DM is advecting at a DM is a DM is advecting the DM is a DM DM of Ohr 6.00 5.000 4,000 2,000 1,000 Normi Overweight Underweid

# To find facts sheets, please visit our website at https://rfes.utpa.edu

# Fact Sheet



e Z Diabetes in Unidren

## Risk Factor Electronic System (RFES)

# RFES

#### Homepage



For More Information Contact: The University of Texas-Pan American Border Health Office 1201 West University Drive Edinburg, Texas 78539-2999

> Email: tmbhco@utpa.edu Phone: (956) 318-8900 Fax: (956) 318-8903 Website: https://rfes.utpa.edu

## **Annual Fact Sheet: Region 10**



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1,159

Obese Overweight Underweight

54

Includes high schools, charter schools, and private schools and excludes incomplete data sources. Source

4,000

2,000

677

Normal

Obese

618 1.473

2 25

59 174

6,000

4.000

2.000 677

Normal

1.159

54

Overweight Underweight