

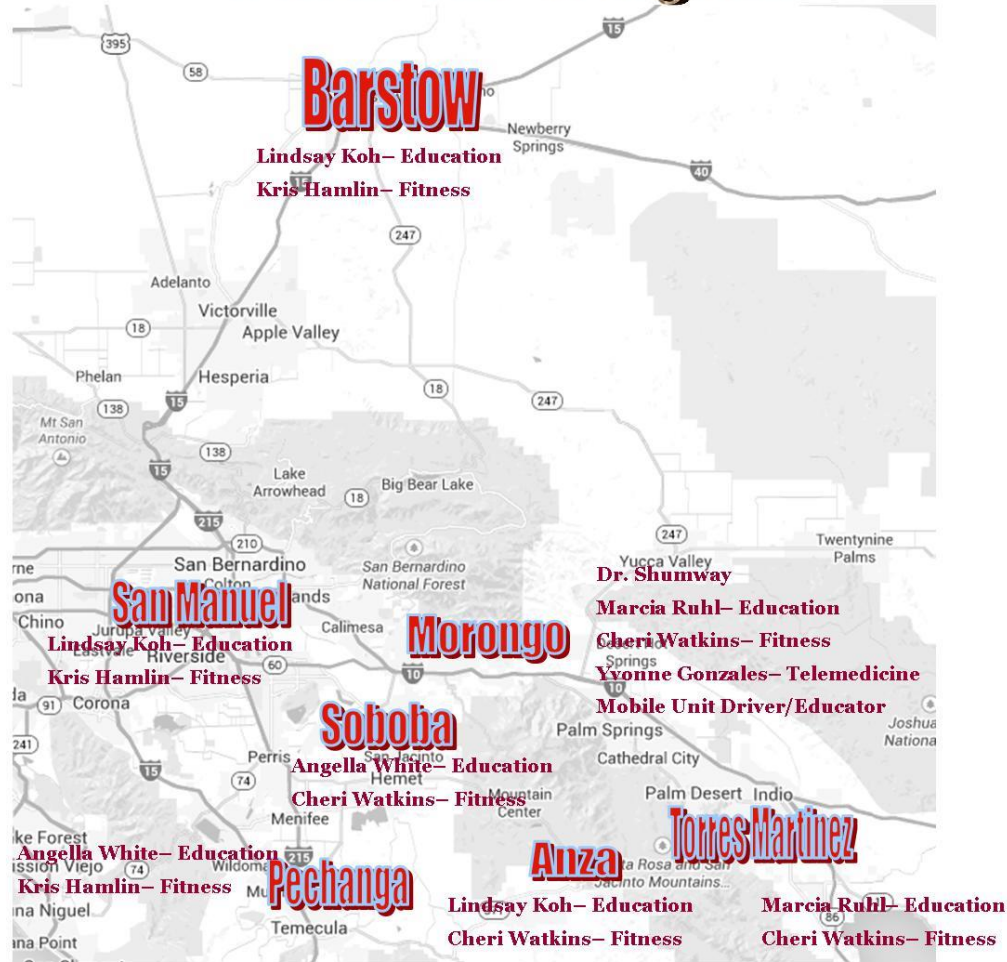


RSBCIHI DIABETES PROGRAM

**KENDALL SHUMWAY DPM
RIVERSIDE-SAN BERNARDINO COUNTY
INDIAN HEALTH INC.
BANNING CALIFORNIA**

RSBC III

Diabetes Program





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STATISTICS

- ❖ **29.1 million people or 9.3% of the population have diabetes.**(CDC 2014)
- ❖ **Approximately 12% of U.S. adults with diabetes have a history of foot ulcer.**
 - ❖ MMWR November 14, 2003 / 52(45);1098-1102
- ❖ **Amputation rates among American Indians are 3 to 4 times higher than those for the general population.** Levels of Diabetes-Related Preventive-Care Practices — United States, 1997-99," *MMWR Weekly* 49 (42): 954-8.

STATISTICS

- ❖ About 60% of non-traumatic LEA caused by diabetes. (CDC 2014)
- ❖ 5 year survival rate ~50% for BKA
- ❖ ~50% of diabetics with LEA require 2nd LEA within 5 years of initial amputation.

HOW DO AMPUTATIONS HAPPEN?

- ✘ Usually caused by a foot injury.
- ✘ The injury becomes infected.
- ✘ Infection spreads.
- ✘ Gangrene may set in.
- ✘ Amputation stops the infection from spreading to the rest of the body.

AMPUTATIONS

(THINGS WHICH INCREASE RISK!)

Diabetes > 10 years

Men > women

Poor blood sugar control

Eye or kidney problems

Neuropathy

Previous amputation

MULTIFACTORIAL ETIOLOGY FOR ULCERS

- ✘ Neuropathy
- ✘ Vascular Disease
- ✘ Abnormal Weight Bearing
- ✘ Limited Joint Mobility
- ✘ Inadequate Shoe-gear
- ✘ Diabetes Education
- ✘ Diabetes Control
- ✘ Social History
- ✘ Vision Loss
- ✘ History of Foot Ulceration
- ✘ Nutritional Status

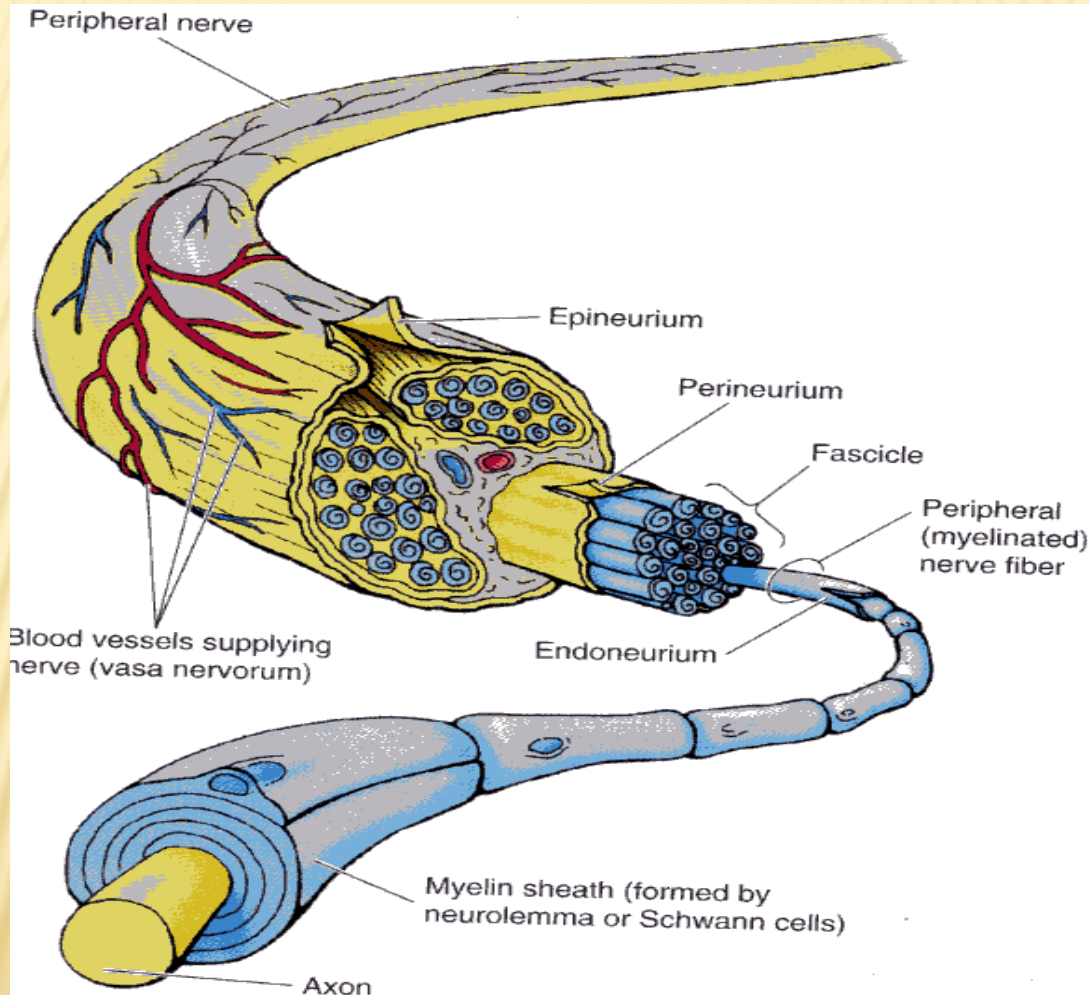
SCREENING TO PREVENT AMPUTATION

- ✘ Visual Exam (Skin)
- ✘ Changes in the Circulation
- ✘ Changes in the Nerves
- ✘ Deformities: a change in the shape of the muscles or bones of the foot. (Musculoskeletal)

PERIPHERAL NEUROPATHY

WHAT IS IT?

PERIPHERAL NERVOUS SYSTEM



TYPES OF NEUROPATHY

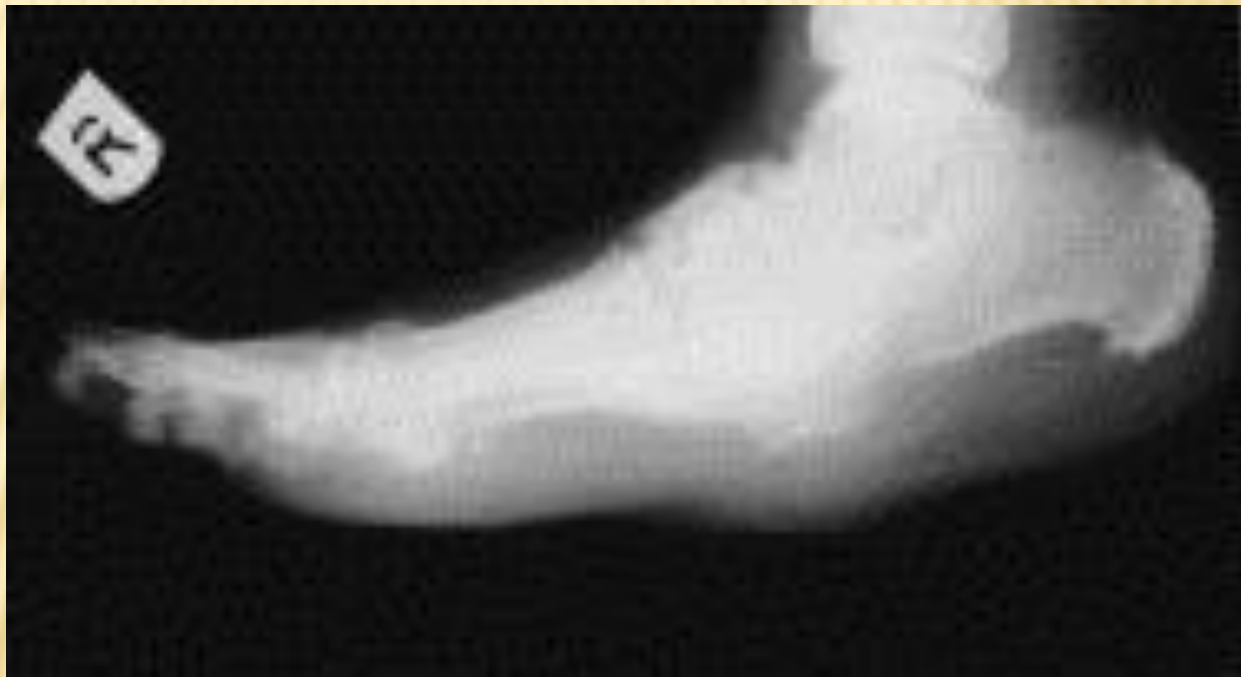
MOTOR NERVE DAMAGE



SENSORY NERVE DAMAGE



CHARCOT ARTHROPATHY



AUTONOMIC NERVE DAMAGE

- ✘ Dry Skin
- ✘ Forms callus easier
- ✘ Fungus starts easier
- ✘ Crack more easily
- ✘ ***Easier to Break open and Allow infection***

SYMPTOMS OF NEUROPATHY

- × Burning
- × Numbness
- × Tingling
- × Pins and Needle Sensation
- × Loss of Feeling



HOW DO YOU PREVENT NEUROPATHY

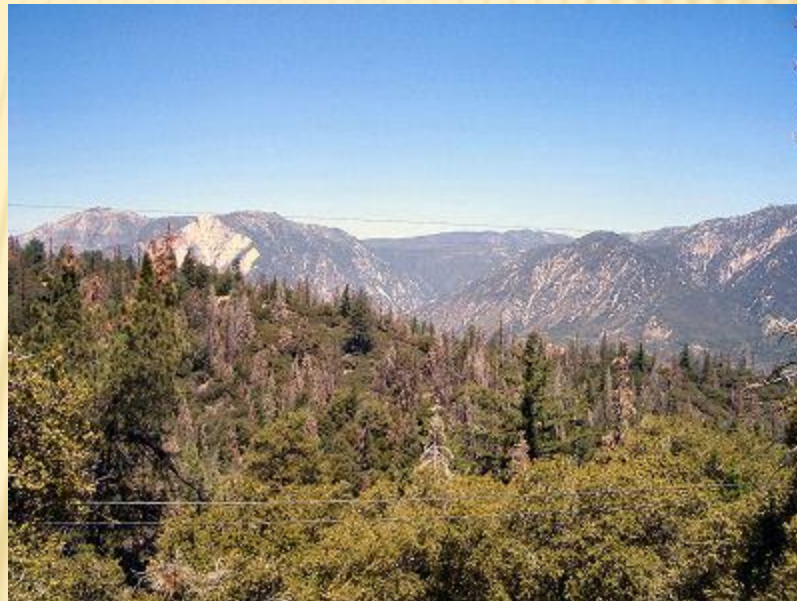
Blood Glucose

PERIPHERAL ARTERIAL DISEASE

WHAT IS IT?



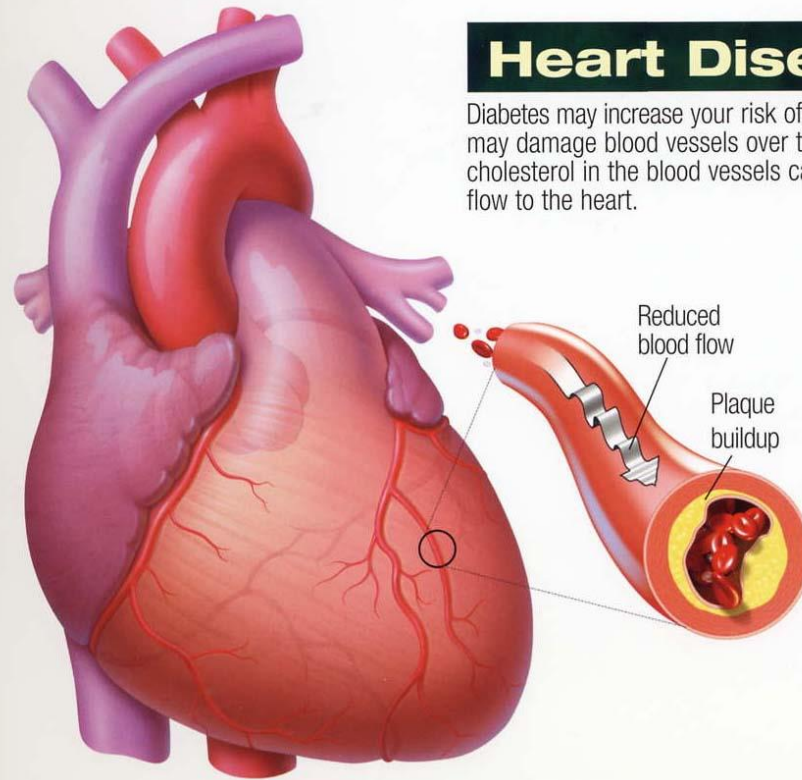
FOREST FIRES





Heart Disease

Diabetes may increase your risk of heart disease. High glucose levels may damage blood vessels over time. High levels of fat and cholesterol in the blood vessels can gradually reduce or block blood flow to the heart.



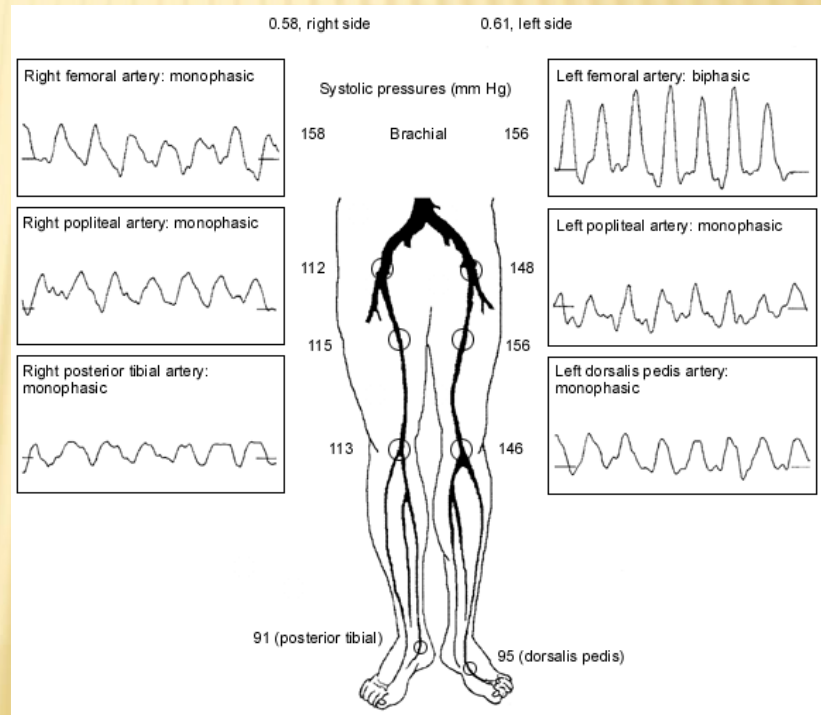
People with diabetes are 2-4 times more likely to die from heart disease.

Your physician should check your blood pressure every visit (at least every 3 months), and check your cholesterol at least once a year.





ABI Screening for Peripheral Arterial Disease (P.A.D.)



-
- ✘ Exercise
 - ✘ Control Cholesterol
 - ✘ Don't smoke
 - ✘ Control Blood Pressure
 - ✘ (Sounds Like Preventing Heart Disease doesn't it?)

HOW DO YOU PREVENT VASCULAR DISEASE?

ULCER AND WOUND CARE

- ✘ What you put on versus what you take off a wound.



Deep callus with underlying bruise



WHICH IS A DIABETIC ULCER?

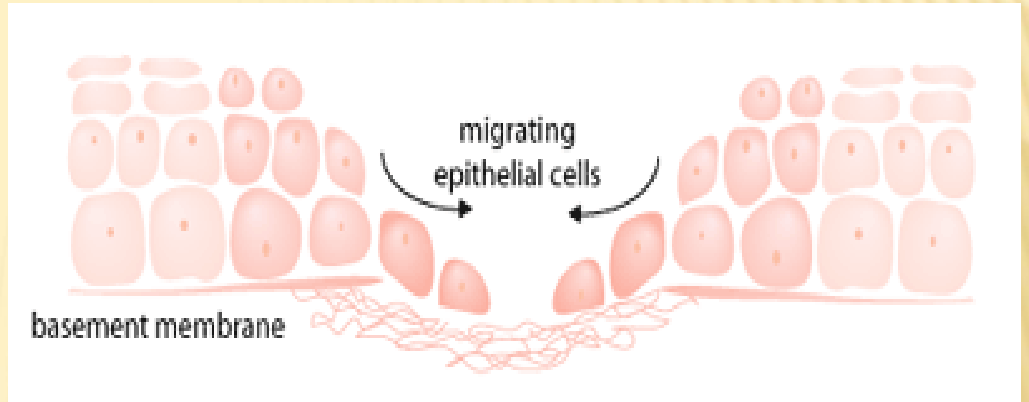
- ✘ Non-healthy Tissue
 - ✘ Pressure and Friction
 - ✘ Drainage
-

**WHAT DO YOU TAKE OFF THE
WOUND?**





**WHAT DO YOU PUT ON THE
WOUND?**



**WHEN SHOULD YOU TAKE AN
ANTIBIOTIC?**

-
- ✘ Redness
 - ✘ Swelling
 - ✘ Warm or hot to the touch
 - ✘ Pain
 - ✘ Pus or drainage


SIGNS OF INFECTION

RSBCIHI

- ✘ April of last year
 - + 49% DM Foot Screening Rate
 - + 907 in Registry
 - + Of those 461 had a podiatry visit

RSBCIHI


- ✘ IPC Team Meetings
- ✘ Sign placed in Exam Rooms

Do You Have DIABETES?  **STOP DIABETES**
American Diabetes Association.

Take Off Your Shoes & Socks

TODAY:
Ask Your Healthcare Provider To Check Your Feet:
Report any changes in how your feet look or feel

EVERY DAY:



- 1 Wash your feet thoroughly
- 2 Dry your feet thoroughly (between the toes)
- 3 Apply moisturizer to your feet (not between the toes)
- 4 Wear moisture resistant socks
- 5 Never walk barefoot
- 6 Wear shoes that fit well

ALSO:

- Check your feet for sores, cuts, blisters, corns and redness
- DO NOT soak your feet
- DO NOT smoke

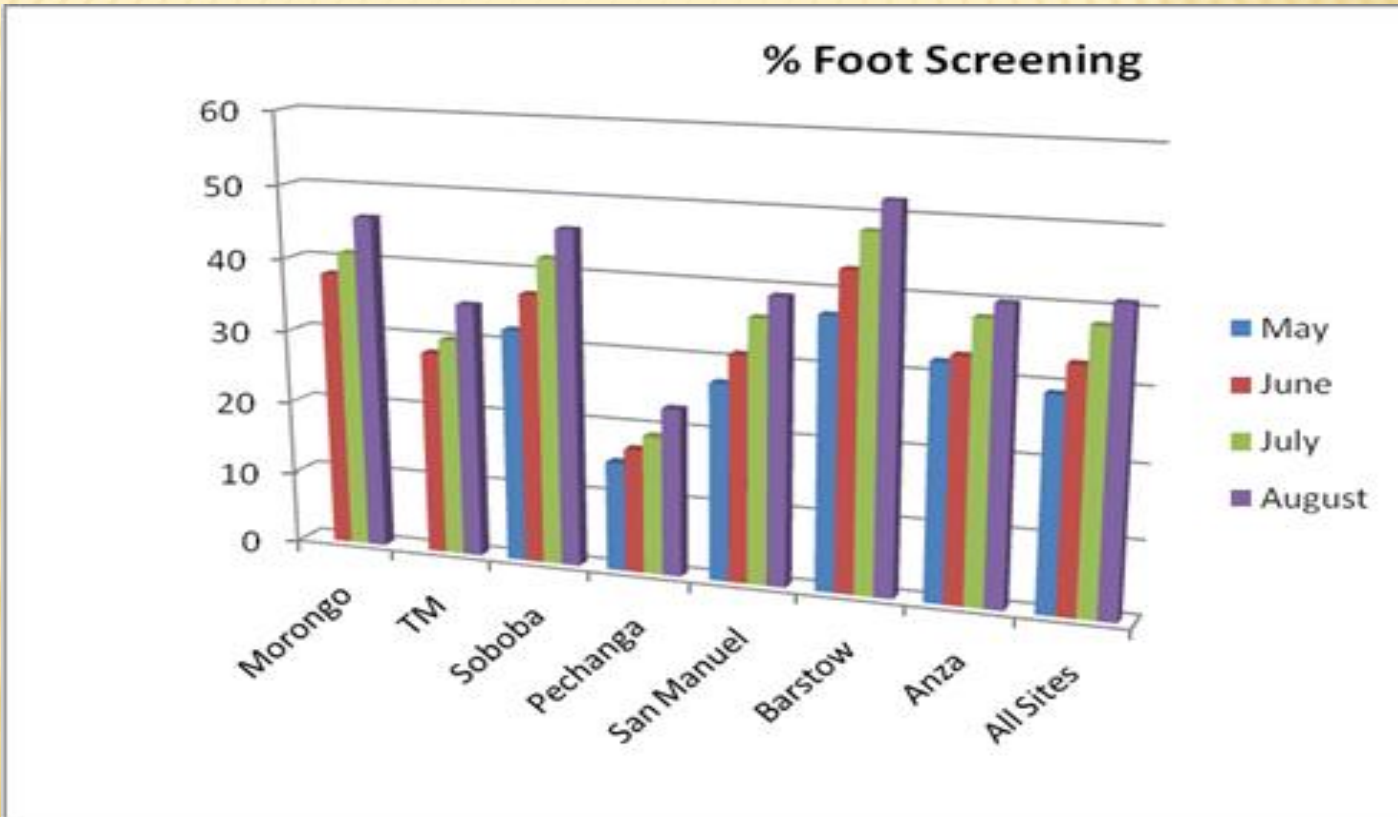
Stop Diabetes® from Knocking You Off Your Feet

Support of these resources made possible by janssen

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RSBCIHI

✘ Monthly Feedback



RSBCIHI- WHERE TO FIND FOOT EXAM STATUS

✗ Reminders

✗ Wellness Tab

The screenshot displays the RPMS-EHR interface for patient 'Demo, Patient John' (32022, DOB 31-Jan-1950). The 'WELLNESS' tab is active, showing a list of exams. An orange arrow points to the 'DM Foot Exam' reminder in the 'Reminders' section at the bottom left. Another orange arrow points to the 'DM Foot Exam' entry in the 'Exams' table on the right side of the screen.

Problem	Date	Medication	Status	Issue Date
Abdominal Pain, Right Up...	29 Jul 2014 09:26	METFORMIN 5...	DISCONTINUED	08-Apr-2015
alcohol abuse	03 Mar 2015 11:46	METFORMIN 5...	ACTIVE	08-Apr-2015
asthma	11 Dec 2012	GLIPIZIDE 5M...	ACTIVE	30-Jul-2014
information i want	23 Jul 2009	INSULIN GLAR...	ACTIVE*	23-Feb-2009
Unspecified Constipation	26 Mar 2010	ACCU-CHECK ...	ACTIVE	
Diabetes mellitus type 2	08-Apr-2015 10:43	ACTAMUNE	DISCONTINUED	
GAD - Generalized anxiety...	09-Apr-2015 08:42			
Severe manic bipolar I dis...	09-Apr-2015 08:29			

Appointment/Vi	Date	Status
GABRIELLE HE	16-Apr-2015 11:00	CANCELLED BY CLINIC
DENTAL MOR...	15-Apr-2015 11:38	AMBULATORY
CHART REVIE...	09-Apr-2015 08:37	CHART REVIEW
CHART REVIE...	08-Apr-2015 12:00	AMBULATORY
CHART REVIE...	08-Apr-2015 10:39	CHART REVIEW
TELEPHONE C...	01-Apr-2015 14:52	TELECOMMUNICATIONS
TELEPHONE C...	01-Apr-2015 14:29	TELECOMMUNICATIONS
DEMO CLINIC...	01-Apr-2015 13:57	TELECOMMUNICATIONS

Vital	Value	Date	Modifier
TMP	98.2 F (37.33 C)	04-Mar-2015 11:50	
PU	88 /min	04-Mar-2015 11:50	ORAL
RS	20 /min	04-Mar-2015 11:50	SPONTANEO...
BP	144/100 mmHg	04-Mar-2015 11:50	LARM SITTI...
HT	61 in (154.94 cm)	13-Mar-2014 09:28	
WT	123 lb (55.79 kg)	13-Mar-2014 09:28	
BMI	23.24	13-Mar-2014 09:28	
PA	0	31-Aug-2010 13:14	

Reminder	Date
DM Foot Exam	07-Oct-2011 12:00
DM HgbA1c	DUE NOW
DM HgbA1C Control	DUE NOW

Exams	Category	Comment	Visit Date	Exams	Result	Comments	Provi
Alcohol Use	Alcohol Use		08/06/2013	DEPRESSION SCREENING	Considered and not done		TRUE
Tobacco	Tobacco		12/11/2012	DIABETIC FOOT EXAM, COMPLETE	Refused		BOUF
Alcohol Use	Alcohol Use		12/07/2012	DEPRESSION SCREENING	NORMAL/NEGATIVE		BOUF
Tobacco	Tobacco		03/09/2011	DIABETIC EYE EXAM	NORMAL	npdr	NAN/
Alcohol Use	Alcohol Use		01/06/2011	FOOT EXAM - GENERAL	ORMAL/NEGATIVE		SHU/
Tobacco	Tobacco		10/07/2010	DIABETIC FOOT EXAM, COMPLETE			SHU/
Alcohol Use	Alcohol Use		08/31/2010	FALL RISK	NORMAL/NEGATIVE		MAR/
Alcohol Use	Alcohol Use		09/10/2009	INTIMATE PARTNER VIOLENCE	Refused		DEMI/
Alcohol Use	Alcohol Use		05/22/2009	INTIMATE PARTNER VIOLENCE	Considered and not done		DEMI/
Tobacco	Tobacco		04/01/2009	ALCOHOL SCREENING	Considered and not done		DEMI/

RSBCIHI

✘ Diabetes Supplement

✘ How to Document

RPMS-EHR SHUMWAY KENDALL P

User: Patient Refresh Data Tools Help Imaging Community Alerts

PRIVACY PATIENT CHART RESOURCES Pharmacy Education

Clear Patient Demo, Patient John 32022 31-Jan-1950 (65) Visit not selected SHUMWAY KENDALL P PCP Update Postings CWF

Problem List Advs React Medications C/C D/A

NOTIFICATIONS REVIEW VITALS CC/TRIAGE MEDS LABS REPORTS ORDERS WELLNESS IMMUNIZATIONS IPL/POV SUPERBILL

Available Reports

- Diabetes Supplement Mu

Health Summary Diabetes Supplement Mu

CLASS/BEN: INDIAN/ALASKA NATIVE Designated PCP: JOHNSON, MARJORIE K

Date of DM Onset: DM Problem #: RS7

BMI: 23.2 Last Height: 61 inches 03/13/2014
Last Weight: 123 lbs 03/13/2014

Tobacco Use: Current User LIGHT TOBACCO SMOKER Mar 04, 2015
Counseled in the past year? Yes Oct 28, 2014 DM-TO

HTN Diagnosed: Yes
CVD Diagnosed: No
Last 3 BP: 144/100 03/04/2015
(non ER) 120/80 07/23/2013
124/78 11/15/2012

ACE Inhibitor/ARB prescribed (in past 6 months): No
Aspirin/Anti-platelet prescribed (in past yr): No
Statin prescribed (in past 6 months): No

Exams (in past 6 months):
Foot: Maybe 12/16/2014 PODIATRY clinic visit
Eye: Yes 08/18/2014 Diabetic Eye Exam
Dental: Yes 04/15/2015 Dental Exam

Depression: Active Problem: Yes Problem List (296.44)
If no, screened in past year:

Immunizations:
Flu vaccine (since August 1st): No

SHUMWAY KENDALL P MORONGO-CL.CAL.IHS.GOV RSBCIHI 28-Apr-2015 09:49

RPMS-EHR SHUMWAY KENDALL P

User: Patient Refresh Data Tools Help Imaging Community Alerts

PRIVACY PATIENT CHART RESOURCES Pharmacy Education

Clear Patient Demo, Patient John 32022 31-Jan-1950 (65) Visit not selected SHUMWAY KENDALL P PCP Update Postings CWF Patient Wellness Handout

Problem List Advs React Medications C/C D/A

NOTIFICATIONS REVIEW VITALS CC/TRIAGE MEDS LABS REPORTS ORDERS WELLNESS IMMUNIZATIONS IPL/POV SUPERBILL NOTES/CONSULT

ED/Exam Goals set by Patient Personal Health Womens Health Well Child

Education Show Standard Add Edit Delete

Visit Date	Education Topic	Comprehension	Status	Objectives	Comment	Provid
04/09/2015	Severe Manic Bipolar I Disorder With Psychotic Features, Mood-Congruent-Literature	GOOD				DUWA
03/04/2015	Immunizations-Literature	GOOD	GOAL MET	understood	copy given to patient	MAHE
02/03/2015	Immunizations-Literature	GOOD				DEMO
10/28/2014	Exam Selection					WEST
10/28/2014	Code Exams /					WEST
10/28/2014	35 ALCOHOL SCREENING					WEST
10/28/2014	31 AUDITORY EVOKED POTENTIAL					WEST
10/28/2014	99 BIMS					DEMO
10/28/2014	41 COLOR BLINDNESS					DEMO
09/18/2014	30 DENTAL EXAM					DEMO
10/28/2014	36 DEPRESSION SCREENING					
03/03/2015	03 DIABETIC EYE EXAM					
10/28/2014	28 DIABETIC FOOT EXAM, COMPLETE					
10/28/2014	33 EYE EXAM - GENERAL					
10/28/2014	37 FALL RISK					
10/28/2014	30 FOBT(CLINIC)					
10/28/2014	32 FOOT EXAM - GENERAL					
03/04/2015	29 FOOT INSPECTION					
10/28/2014	34 INTIMATE PARTNER VIOLENCE					
10/28/2014	39 NEWBORN HEARING SCREEN (LEFT)					
10/28/2014	38 NEWBORN HEARING SCREEN (RIGHT)					
06/06/2014	43 SUICIDE RISK ASSESSMENT					
03/13/2014	42 VTE RISK ASSESSMENT					
03/13/2014						
03/13/2014						
07/23/2013						

Exam Selection

Code Exams /

35 ALCOHOL SCREENING

31 AUDITORY EVOKED POTENTIAL

99 BIMS

41 COLOR BLINDNESS

30 DENTAL EXAM

36 DEPRESSION SCREENING

03 DIABETIC EYE EXAM

28 DIABETIC FOOT EXAM, COMPLETE

33 EYE EXAM - GENERAL

37 FALL RISK

30 FOBT(CLINIC)

32 FOOT EXAM - GENERAL

29 FOOT INSPECTION

34 INTIMATE PARTNER VIOLENCE

39 NEWBORN HEARING SCREEN (LEFT)

38 NEWBORN HEARING SCREEN (RIGHT)

43 SUICIDE RISK ASSESSMENT

42 VTE RISK ASSESSMENT

Document an Exam

Exam Add

Result (None selected)

Comment

Provider SHUMWAY KENDALL P

Historical

Event Date

Location

IHS/Tribal Facility

Other

SHUMWAY KENDALL P MORONGO-CL.CAL.IHS.GOV RSBCIHI 28-Apr-2015 09:52

RSBCIHI

✘ <http://www.hrsa.gov/hansen/disease/leap/>

✘ Packets of 10 and can order 5 packets per month per provider.



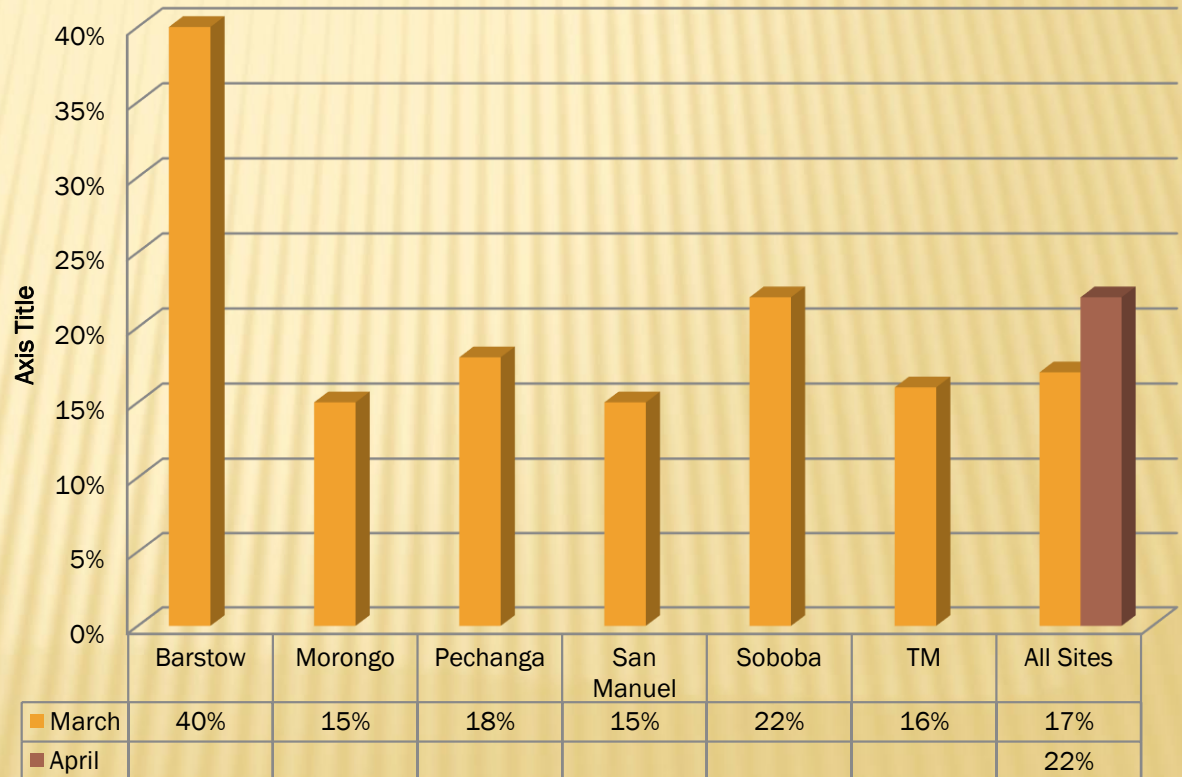
RSBCIHI

✘ DM Audit

+ 2014- 46%

+ 2015- 54%

DM Foot Exams 1st Quarter 2015



SCREENING TO PREVENT AMPUTATION

- ✘ Visual Exam (Skin)
- ✘ Changes in the Circulation
- ✘ Changes in the Nerves
- ✘ Deformities: a change in the shape of the muscles or bones of the foot. (Musculoskeletal)

FOOT SCREENING

- ✘ Foot Screen

FOOT CARE FOR ALL PEOPLE WITH DIABETES

- ✘ Foot check every visit
- ✘ Annual diabetic foot exam – in clinic
- ✘ Referral when new serious foot problem discovered
- ✘ Patient Education

SPECIAL FOOT CARE FOR PEOPLE WITH DIABETES WHO HAVE *INSENSITIVE* FEET

- ✘ Check the feet twice a day.
- ✘ Check temperature of water with elbow before putting feet in.
- ✘ Dry feet very well especially between toes.
- ✘ Apply lotion, cream, oil, or vaseline twice a day.
- ✘ For cold/numb feet, wear extra socks-avoid heating pads, hot water bottles, and stoves.
- ✘ Wear proper shoes/socks.

SPECIAL HIGH-RISK FEET

- ✘ *Insensitive* feet only – complete foot exam every 6 months
- ✘ *Insensitive* feet *and* foot *deformity* – complete foot exam every 4 months
May need extra depth shoes with special insole called an orthotic.

SPECIAL HIGH-RISK FEET

- ✘ Insensitive feet and a foot ulcer or amputation in the past – complete foot exam every 2-3 months.

Have special extra depth or custom made shoes as well as custom insole called an orthotic.

VISUAL EXAM

- ✘ Look at the lower leg, the ankle, the heel, the top and bottom of the foot, and the toes. (Don't forget between Toes)

LOOK AT TOES AND TOENAILS

- ✘ Thickened nails – fungal infections, trauma often the cause – can easily catch and be pulled off – pressure from shoes can cause an ulcer beneath nail
- ✘ Ingrown nails – edges of nails may become infected – red, hot, and very painful
- ✘ Infected toe webs – fungal infection, poor foot care and hygiene, moisture between toes, skin cracks and bacteria can get into the skin

ATHLETES FOOT



NAIL FUNGUS (ONYCHOMYCOSIS)

- ✘ Makes Nails Thick and Misshapen and Hard and more likely to become ingrown

DIGGER THE DERMATOPHYTE





INGROWN TOENAIL



LOOK FOR CALLUSES AND CORNS

- ✘ What is a callus – callus (or corn) happens when the skin tries to protect itself for constant pressure – the skin grows thicker and thicker and becomes hard
- ✘ Think – why did this callus develop – what is causing the pressure: deformed bones, toenail, tight shoes, problem inside shoes

PRESSURE POINTS—SOME EXAMPLES

- ✘ The edge of a long toenail that rubs against the toe next to it.
- ✘ Shoes that are too tight.
- ✘ A foreign object in the shoe.

CORN

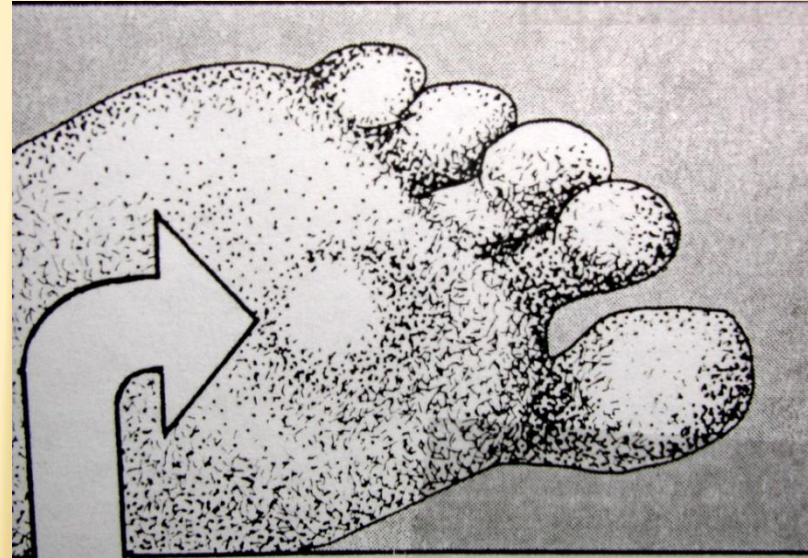


- ✘ A callus that forms on the top or end of a toe
- ✘ Or between two toes
- ✘ Result of a bony prominence on the toe or toes



CALLUS

- ✘ Changes in the skin which happen when the skin grows thicker trying to protect itself from constant pressure





FOOT PULSES

- ✘ Evaluate circulation in the feet by feeling for pulses
- ✘ Dorsalis Pedis pulse
- ✘ Posterior Tibial pulse
- ✘ Capillary Refill

DORSALIS PEDIS PULSE

- ✘ Top of the foot
- ✘ Use three fingers
- ✘ Feel just lateral to the extensor tendon of the big toe
- ✘ Sometimes absent (congenitally)

3. *The Dorsalis Pedis Pulse.* Use three fingers on the dorsum of the foot (not the ankle) usually just lateral to the extensor tendon of the great toe. (This pulse is sometimes congenitally absent.)



POSTERIOR TIBIAL PULSE

4. *The Posterior Tibial Pulse.*
Curve your fingers behind and slightly below the medial malleolus of the ankle. (This pulse may also be congenitally absent.)



- ✘ Inside of the ankle
- ✘ Use three fingers
- ✘ Curve the fingers just behind the medial (inside) ankle bone
- ✘ May also be absent (congenitally)

MONOFILAMENT TESTING

- ✘ Important test to determine if *protective sensation intact*, or *insensitive feet*
- ✘ 5.07 (10 gm) monofilament used
- ✘ Touch foot lightly with the monofilament causing it to just bend—if felt by patient then *protective sensation is intact*

LOOK FOR DEFORMITIES

- ✘ Deformity – a change in the shape of the muscles or bones of the foot – may cause stress and pressure leading to callus and/or ulcers

- ✘ Common deformities seen:

Hammertoes

Claw toes

Bunion

Amputation

BUNION

- ✘ A bony prominence of the big toe joint or the 5th toe joint



HAMMERTOES

- ✘ A buckling of a toe producing a bony prominence on the top of the toe



PATIENT EDUCATION—DIABETES

- ✘ Stop smoking
- ✘ Check feet daily
- ✘ Wash feet daily
- ✘ Do not soak feet except to soften nails for trimming
- ✘ Do not go barefoot- Even in the House
- ✘ Never use hot water bottles, heating pads, or hot water
- ✘ Do not use chemicals to remove corns/warts
- ✘ Pick proper shoes and socks

MEDICARE SHOE BENEFIT



NIKE NATIVE N7

