

TB Case Management: Resources & Odd Bits



"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

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Jane Moore
August 4, 2010

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Today's Topics Include . . .

- Tuberculin Skin Testing
- New Lab Tests for TB
- Drug Levels
- Inter-jurisdictional Referrals
- HIP
- MDR-XDR TB
- Resources for Case Management

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Tuberculin Skin Testing

A Review

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TB Prevention and Control Policies and Procedures

- Based on USPHS/CDC, ATS, IDSA and Pediatric "Red Book" guidelines



Mantoux Tuberculin Skin Test (TST)

- A test for TB infection only
 - Until recently – only test available
 - Interpretation of TST result based on:
 - Size of the induration (swelling) and
 - Person's risk factors for TB
- IGRAs – newer lab tests with limited availability

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TB Skin Testing = TST

- Screening
- Planting (Administration)
- Measurement
- Interpretation
- Follow-up

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The Mantoux Test

- Different types of tuberculin tests are available
- The Mantoux method is the preferred test
- Purified protein derivative or “PPD”

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How Is The Mantoux Skin Test Given?

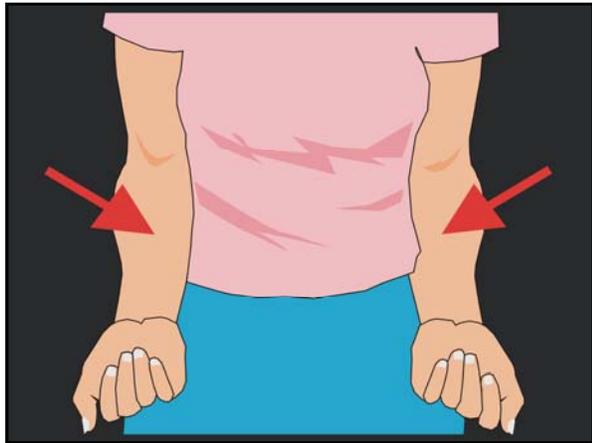
- Inject 0.1 ml of 5 tuberculin units of liquid tuberculin (PPD) between the layers of the skin (intradermally)
- Usually on the forearm (dorsal or volar surface)
- Inject at 5-15 degree angle
- Tense white wheal – 6-10 mm

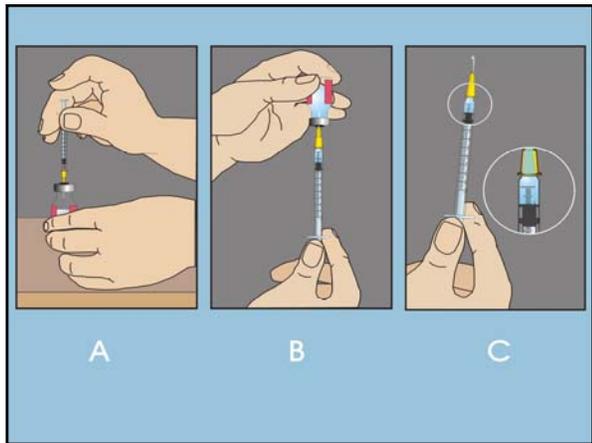
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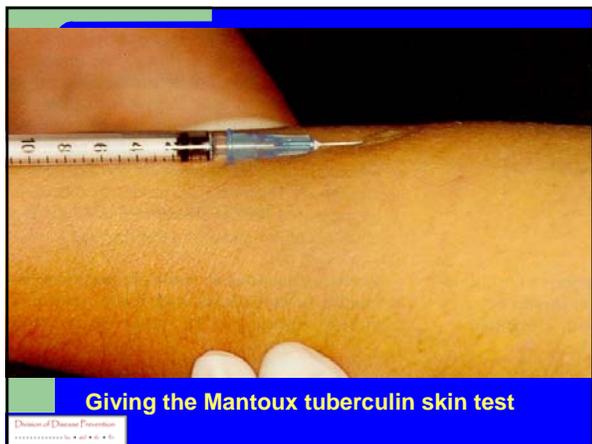
Instructions for Patient

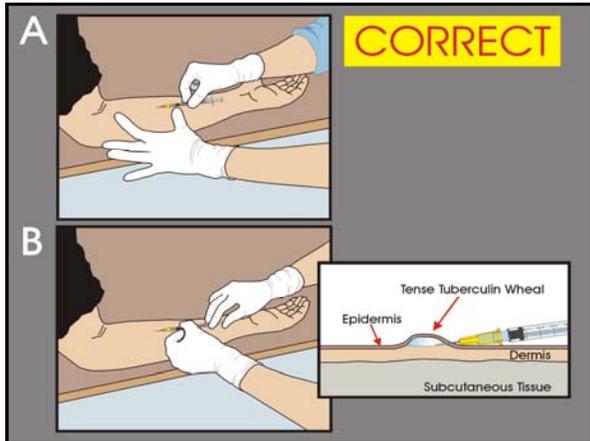
- Information on return for reading
- Don't scratch!
- Do not cover with bandage
- Shower, swimming, etc. okay.

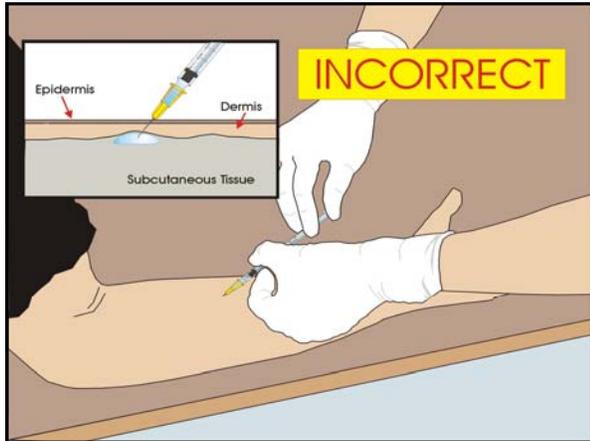
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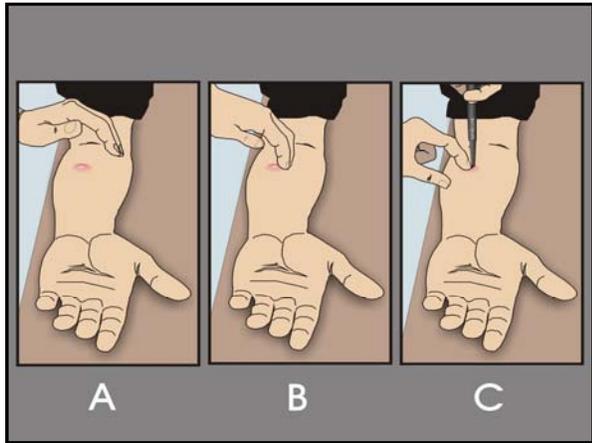


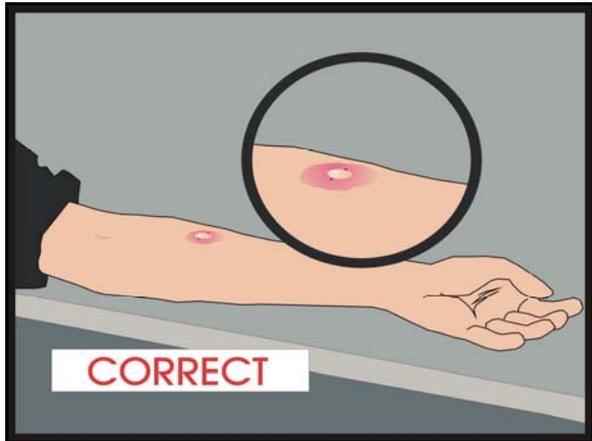


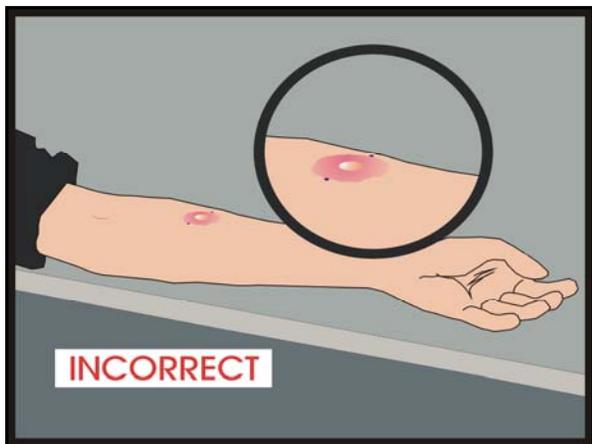
Measurement

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New Laboratory Tests for Tuberculosis

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www.cdc.gov

Interferon Gamma Release Assays IGRAs

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www.cdc.gov

- New CDC recommendations
 - MMWR June 25, 2010
<http://www.cdc.gov/mmwr/PDF/rr/rr5905.pdf>
 - Can be used for children over age 5
 - HIV
 - Use in contact investigations

The Dictionary of Acronyms

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- NAA – nucleic acid amplification – amplifies *IS6110* – all rapid tests based on this
- PCR – polymerase chain reaction – most widely used NAA test
- MTD – Mycobacterium tuberculosis direct test or detection
 - DCLS October 2009

QuantiFERON®

- FDA approved in 2005 – QFT-G InTube approved 10/07
- Detects release of interferon-gamma in fresh heparinized whole blood when incubated with synthetic peptides present in *M. tb*.
 - ESAT6 – *early secretory antigenic target-6*
 - CFP-10 – *culture filtrate protein*
- May be useful in contact investigations, evaluation of recent immigrants, and testing for infection control purposes
- Caution for use in selected populations(young children, immune compromised, suspects)
- Time requirements and access remain limitations

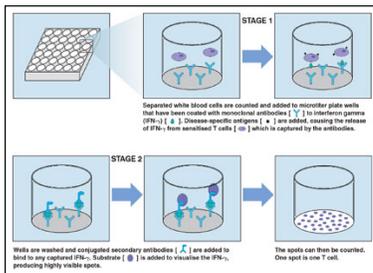
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T-SPOT.TB

- Now FDA approved – July 30, 2008
- Uses same peptides to determine presence of infection – (ESAT6 & CFP-10)
- Provides reliable results in all targeted groups, including*:
 - Immunosuppressed
 - BCG vaccinated
 - TB suspects
 - TB contacts
 - Health Care Workers
- Sensitivity of 95.6%
- Specificity of 97.1%

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T-SPOT.TB Process



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Drug Level Procedures

Test Day

- Timing of medications and blood draws is critical; time varies with drug . Follow time guidelines on requisition slip
 - Big 4 – all can be done at 2 hours post ingestion
 - Occasionally a second sample is collected 4 hours after peak
- Observe patient taking medications and record **exact time and date.**

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Drug Level Procedures

After Test Day

- Levels take 3-7 days to complete (not including shipping)
- Call if you have not received results 10 days after shipment

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When Test Results Indicate Changes Are Needed

- Make sure case manager and all clinicians are working together on changes to drug regimen
- Reports may include desired levels, suggestions on dosing
 - Other resources available
- Contact TB Control for assistance in developing new drug regimen
- Repeat levels may be needed in several weeks once new regimen stabilized

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Interjurisdictional Referrals

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Types

- Interjurisdictional
 - Cases and suspects
 - Contacts
- International

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TB Cases.....Who is Responsible?

- WHERE THE CASE IS COUNTED
 - Is responsible for maintaining contact with locality that case moved to until treatment complete
 - Follow-up forms

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Interjurisdictional Follow-up Form

- Thirty day initial report
- Interim information
- Final disposition
- All forms should be routed through state TB Control offices
- Maintain copies in client record

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International Form

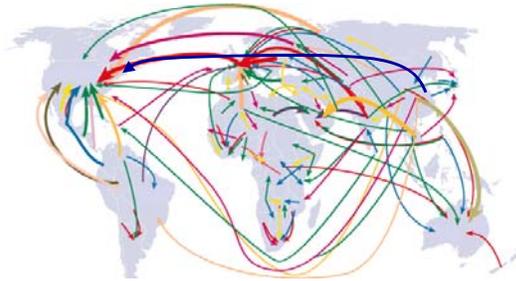
- Used when clients leave US
- Form available on CDC web site and VDH Tb Control web site.
- Other resources for Mexico and some Latin American countries
 - Cure TB, TBNet
- Route all international referrals through state TB Control office
- Maintain copy in client record

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MDR –XDR TB

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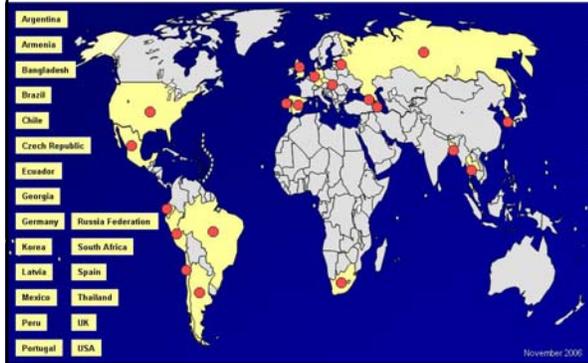
**Have germs, will travel...
Migrating populations in the 1990s**



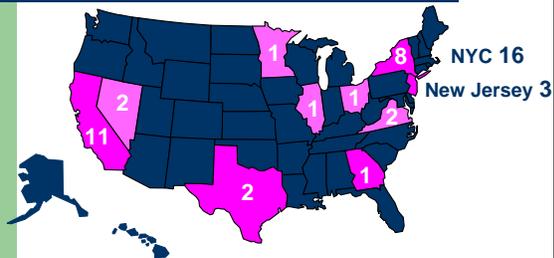
Compared to 1960-75, four-fold increase in migration

Source: Population Action International 1994

**Countries with XDR-TB
Confirmed cases to date**



**XDR TB Cases in the United States
(Initial DST), 1993–2007***



* Preliminary data- not for distribution



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What Causes Secondary Drug Resistance?

- Treatment Failure
 - Client issues
 - Healthcare provider issues

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Who is at Higher Risk of MDR-TB?

- History of previous TB Tx especially if recent
- Foreign-born patients from countries or ethnicities with high prevalence of MDR
- Poor response to standard 4 drug regimen
- Known exposure to MDR-TB case
- HIV+

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Step 1

Begin with any First line agents to Which the isolate is Susceptible

Add a Fluoroquinolone And an injectable Drug based on susceptibilities

Use any available

PLUS

One of these

PLUS

One of these

First-line drugs

Pyrazinamide
Ethambutol

Fluoroquinolones

Levofloxacin
Moxifloxacin

Injectable agents

Amikacin
Capreomycin
Streptomycin
Kanamycin

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BS

TB Guidebook 2001

- <http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/Programs/Tuberculosis/guidebook/index.htm>



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TB Treatment Plan

- Required for all clients with confirmed TB disease and those who are suspects
- Whenever treatment is started a treatment plan must be in place
- Must be submitted and approved by health department prior to d/c from any medical facility, correctional center or other similar facility

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Templates for Use with TB Guidebook

- Template forms available on web site
 - Examination Request
 - Counseling Order
 - Outpatient Treatment Order
 - Emergency Detention Order
- Collaboration with TB Control a must
 - Consultation with Office of Attorney General needed to proceed to Emergency Detention Order
 - Handled by TB Control

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Websites

- VDH TB Control:
 - Policies, Forms, Epidemiology, Patients, MD & RN, Links, Staff, Video Conference Programs
- Find TB
- Regional Medical Consultation and Training Centers
- CDC

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VDH TB Control – Site address & Policies page

<http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/Programs/Tuberculosis/index.htm>

- Policies
 - VA TB Laws Guidebook
 - Emergency Detention Procedures
 - HIP Guidebook
 - Standards of Care
 - Contact Investigation Guidelines and Forms

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VDH TB Control – Forms Page

- Medical record forms
 - Case management record, NOT DBE
 - Do not use DBE forms in TB record
- Contact Investigation forms
- Interjurisdictional forms
- Risk assessment form
- Screening report forms

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Use of Culture Neutral Images



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A Variety of Teaching Options

- One-on-one teaching using laptop in clinic or home setting
- DVD version played in waiting rooms
- Audio on MP3 player used in conjunction with print version
- New mobile phone versions – the possibilities are endless

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Practical Facts

- Materials free of charge
- Downloadable MPeG Video for Closed Circuit TV for use in large clinics now available
 - Small fee for this format
- Run time varies with topic and language
 - Shortest – 1 minute 50 seconds
 - Longest – over 6 minutes
- All print versions formatted for single page

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Fun Facts

For the past 6 months 55-64 countries have downloaded materials

- Australia
- Canada
- Indonesia
- United Kingdom
- Spain
- Germany
- Hong Kong
- Philippines
- Taiwan
- India

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More Fun Facts

- Most Downloaded Languages
 - English – top language
 - Tagalog
 - Indonesian
 - Arabic
 - Vietnamese
 - Hindi
 - Urdu

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Tuberculosis Control and Prevention Program, **VDH** VIRGINIA
Division of Disease Prevention, Nov 2002

Click here to learn how you can share this material

A Healthy Roads Media project
www.healthyroadsmedia.org

Last reviewed 10/2/04



هل أحتاج إلي
إختبار جلدي للسل؟

Click Here for English Text

Vous devriez passer le test si:

- vous présentez des symptômes de tuberculose (toux, fatigue, transpiration excessive pendant la nuit, fièvre, perte de poids, toux avec crachats de sang)



Click Here for English Text

Navigation icons: back, forward, stop, play, full screen

Le test cutané de dépistage de la tuberculose n'est conseillé qu'aux personnes qui:

- présentent des symptômes de la tuberculose ont
- des risques élevés d'être infectés par les germes de la tuberculose ont
- des risques élevés de tomber malade s'ils sont infectés par la tuberculose.

Tuberculosis (TB) Skin testing is recommended only for people who:

- have symptoms of TB or
- are at higher risk for becoming infected with TB germs or are at higher risk of becoming sick if they have a TB infection.



Navigation icons: back, forward, stop, play, full screen

هل يجب أن أختبر؟

Click Here for English Text

귀하께서는 검사가 필요할 것입니다:

- 고향에 걸린 사람들이 많이 사는 나라에 살았거나 여행을 하셨던 경우

Click Here for English Text

Option to Print

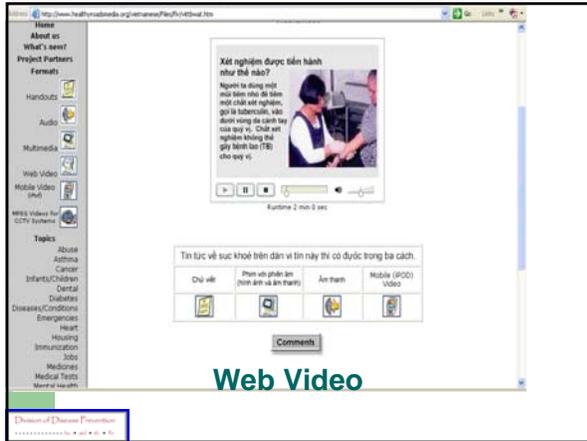
إن المجتمع كله يمكن أن يساعد في هذا المجال، وذلك بالإبهار بأن العنف المنزلي مرفوض وغير مقبول.

نعم لا

Web-video

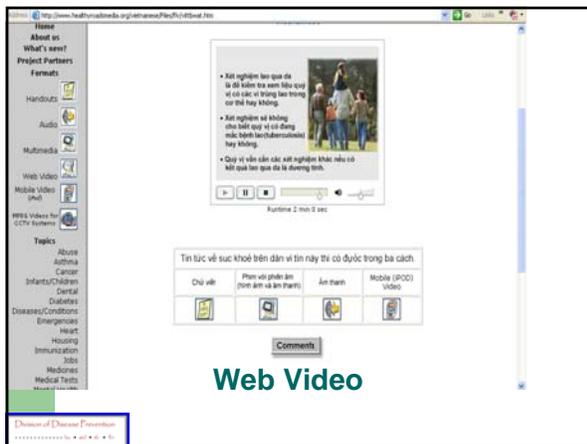


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Web Video

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Web Video

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Print Version



Baari'aanka Qaaxada ama Tiibishada ee jirka waxaa lagula talinayaa dadkaan hoos ku xusan oo kali ah:

- Dadka leh calaamadaha Qaaxada, ama
- Aad halis ugu ah inay qaadaan jeermiga qaaxada ama tiibishada dhaliyo, ama
- Aad halis ugu ah jiro hadii ay qabaan jeermiga cudurka qaaxada dhaliya.

Ma in la ibaraa?
Laga yaabe inaad u baahantahay in lagu baaro hadii aad:

- Leedahay calaamadaha qaaxada sida (qufaca, daalka, habayn dhididka, qandhada, miisaandhac, dhiig qufacid)

ad la xiriirtay ama la dhacanto qof cudurka Qaaxada qaba
ad tahay shaqaale casfi'aad
ad ku nooshahay xabsi, hay'ada waalida (maankoo'biyo), ama guryaha dadka waaweyn lagu yaaneeyo
ad ku noolaatay ama u safartay wadan ay dadku badi qabaan cudurka qaaxada
ad isticmaashay cirbadaha muqaadaraadka layskula duro
ad qabto xaalado gaar ah oo casfi'aad sida

- Kansarka (kaankarada)	- Jeermiga HIV-da
- Cudurka kalyaha oo halis ah	- Aad qaadaneyso daawo isteerooydih ah
- sokor	- Miisaankaada uu aad u dhacsan yahay
- silicosis	

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Other Formats

- Audio – use iPod or MP3 player
- Mobile video – iPhone or similar



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Used with a Variety of Technology



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Where You Can Find It!

- Link to the multimedia materials viewed today www.healthyroadsmedia.org
- Link to the VDH DTC pamphlets in 15 languages
<http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/Programs/Tuberculosis/Patients/brochureLanguage.htm>

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www.vdh.virginia.gov

Contact Information

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