SUMMARY OF DIFFERENCES BETWEEN 2003 CALIFORNIA AND NATIONAL TUBERCULOSIS TREATMENT GUIDELINES

BACKGROUND

In April 2003, the California Tuberculosis Controller's Association (CTCA) and California Department Health Services (CDHS) released updated CDHS/CTCA Joint Guidelines for the Treatment of Active Tuberculosis Disease. These guidelines were disseminated at the same time updated national tuberculosis (TB) treatment guidelines from the Centers for Disease Control (CDC)/American Thoracic Society (ATS)/Infectious Disease Society (IDSA) were published. The CDHS/CTCA guidelines are largely based on the content of the national guidelines and, wherever possible, the workgroup that developed the CDHS/CTCA guideline attempted to make the California guidelines consistent with the national guidelines. As a result, the CTCA and ATS/CDC/IDSA treatment guidelines are very similar in scope and detail. There are, however, a few notable differences that we highlight below.

The discordant recommendations usually reflect areas in which there is little data and recommendations are based upon expert opinion. In other instances differences may be attributed to subtleties in TB epidemiology between the state and national level. Please note that this summary is intended to point out major differences between national and California recommendations but does not provide a summary of the entire contents of either guideline. Please refer to the specific guideline for further detail on treatment recommendations.[1,2]

HIGHLIGHTS

1) Duration of therapy for delayed culture conversion or cavitary disease

For patients with positive 2- month sputum cultures **OR** patients with cavitary disease upon initial diagnosis, the CDHS/CTCA guideline recommends extending the continuation phase of treatment to 7 months. The ATS guideline recommends such extension only when a patient has **BOTH** delayed culture conversion and cavitary disease.

2) Intermittent therapy for HIV-infected patients

The CDHS/CTCA guideline advises against the use of intermittent therapy in HIV-infected patients. In contrast, the ATS guideline does allow for thrice-weekly therapy with INH and RIF during the continuation phase, as well as the use of twice-weekly regimen in those with less advanced immunosuppression (CD4>100). The ATS and California recommendations reflect data showing an increased frequency of rifamycin resistance in patients with more advanced immunosuppression (CD4<100) who receive twice-weekly therapy.

3) Duration of therapy for smear and culture -negative disease

For patients with smear and culture- negative TB, the CDHS/CTCA guideline recommends a longer duration of therapy in the continuation phase than does ATS. According to CDHS/CTCA guideline, patients with smear and culture-negative TB who are responding to therapy after 2 months and for whom no other etiology is identified, should continue treatment for an additional 4 months. In contrast, the ATS guideline states that the continuation phase of therapy may be shortened to 2 months.

In addition, because of the high level of isoniazid (INH) resistance in California, the CDHS/CTCA guideline recommends the continuation of at least 3 drug therapy with INH, rifampin (RIF), and ethambutol (EMB) throughout the continuation phase of treatment. In contrast, ATS allows for the use of 2 drug therapy with INH and RIF during the continuation phase.

4) Use of Ethambutol in Children

ATS guidance on this issue is consistent with California's recommendation to treat all children with standard four-drug therapy. The ATS guideline recommends standard four-drug therapy in children with radiographic evidence suggestive of reactivated disease (versus primary disease) or when epidemiologic circumstances suggest a high risk of drug-resistance. Because of the high rate of INH resistance in California, pediatric cases occurring anywhere in the state would fit the latter ATS criteria, and should, therefore, be treated with standard four-drug therapy.

5) Multidrug -resistant TB (MDR-TB): clinical monitoring of cases

The CDHS/CTCA guideline contains more specific guidance on managing MDR-TB particularly with regard to sputum monitoring and infection control issues. The CDHS/CTCA guideline recommends that sputum smears and cultures be collected at least monthly throughout treatment for MDR-TB patients. Patients with pulmonary MDR-TB should remain in respiratory isolation until 3 consecutive sputum AFB smears and cultures are negative and cultures remain consistently negative.

6) End of Therapy/Post Treatment Monitoring

MDR-TB:

The CDHS/CTCA guideline recommends post-treatment follow- up/monitoring for 2 years following completion of treatment for patients with MDR- TB. Specifically, the CDHS/CTCA guideline recommends that all MDR-TB patients be followed with symptom review, medical evaluation, sputum collection, and chest radiograph every 3 months in the first year after completion of therapy, then every 6 months during the second year after treatment completion. The ATS guideline does not address post-treatment follow-up for these patients.

Drug sensitive TB:

For all patients, the CDHS/CTCA guideline "highly recommends" the collection of "one to two" sputum specimens for smear and culture at the completion of therapy, particularly in patients with a high risk of relapse or delayed culture conversion beyond 2 months after initiation of appropriate therapy. The ATS guideline does not provide recommendations for sputum assessment at the completion of therapy.

The CDHS/CTCA guideline also recommends a chest radiograph at completion of therapy for all patients. This radiograph then provides a new baseline for comparison with future radiographs. The ATS guideline states that a repeat chest radiograph at the end of therapy may be "useful, but it is not essential."

7) Specific indications for Directly Observed Therapy (DOT)

The California and ATS guidelines both emphasize the importance of DOT as the initial core management strategy for all patients. The CDHS/CTCA guideline also provides an expanded list of those who should be considered as highest priority if DOT resources are limited. The CDHS/CTCA guideline classifies patient indications into 3 categories:1) risk of significant consequence to the public; 2) potential for non-adherence and; 3) risk of significant consequence to the individual. See pages 18-19 of the California guideline for further detail.

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Recommendation Area	CDHS/CTCA Joint Guidelines[1]	ATS /CDC /IDSA Guidelines[2]
1) Treatment extension for patients with delayed culture conversion or cavitary disease	Treatment should be extended to nine months for patients with culture conversion delayed beyond 2 months OR who have cavitary disease	Treatment should be extended to nine months for patients with BOTH culture conversion delayed beyond 2 months AND cavitary disease
2) Intermittent therapy of INH/RIF in continuation phase in HIV infected patients	Advise against intermittent therapy in HIV infected patients	Thrice weekly treatment with INH/RIF in HIV infected patients in continuation phase; Can consider twice weekly INH/RIF in continuation phase if CD4 count > 100
3) Duration of therapy for smear and culture- negative cases	Treat for total of 6 months: 2 months of 4 drug therapy, followed by 4 months of continuation phase therapy using INH, RIF, and EMB	Can treat a total of 4 months: 2 months of 4 drug therapy, followed by 2 months of INH and RIF
4) Use of ethambutol as part of standard four-drug therapy in children	Because of a high prevalence of INH-resistance in California, all children should be empirically started on standard four-drug therapy	Children with radiographic evidence suggestive of reactivated ("adult-type") infection should be empirically started on a standard four-drug regimen. In addition, when epidemiologic circumstances suggest an increased risk of drug resistance, children can be safely treated with ethambutol as part of a standard four-drug therapy
5) MDR- TB Case Management and Isolation	Obtain sputum smear and culture at least monthly throughout treatment. Pulmonary MDR TB patients should remain in respiratory isolation until 3 negative smears and cultures are consistently negative.	Culture monitoring and discontinuing isolation is not specified for MDR-TB in the ATS TB treatment guideline

6) End of treatment and post treatment monitoring		
a) *Drug sensitive cases*	Collect 1-2 sputum specimens for smear and culture at the completion of therapy, particularly in patients with a high risk of relapse or culture conversion delayed beyond 2 months	A chest x-ray at the end of treatment may be "useful but not essential"
b) *MDR-TB cases*	All MDR-TB patients should be followed after treatment completion with sputum collection, symptom review, and chest radiograph every 3 months the first year, and every 6 months the second year.	No specific recommendations provided
7) DOT is prioritized by both CTCA and ATS if :	DOT is recommended as "the initial core strategy for all TB patients"	DOT is the "preferred initial treatment strategy"
?? Sputum smear positive ?? Drug resistant ?? Treatment failure; relapse; h/o TB ?? HIV ?? Substance abuse ?? Psychiatric illness ?? Memory impairment ?? Previous nonadherence to treatment ?? Children and adolescents	Additional patients prioritized by CTCA include: ?? Slow sputum conversion or clinical improvement ?? Correctional inmates, homeless, TB patients in congregate settings ?? Renal dialysis ?? Poor acceptance of TB diagnosis ?? Poor compliance during initial medical management ?? Adverse reactions to medications; frequent interruptions to treatment ?? Too ill to self-manage or clinical deterioration while on treatment	Additional patients prioritized by ATS include: ?? Patients with history of treatment for Latent TB Infection

1. Centers for Disease Control and Prevention Treatment of Tuberculosis, American Thoracic Society, CDC, and Infectious Disease Society of America. MMWR 2003;52 (No. RR-11).
2. California Department of Health Services /California Tuberculosis Controllers Association Joint Guidelines for Treatment of Active Tuberculosis Disease, 2003