

INSTRUCTIONS FOR USE OF THE MINNESOTA WITHDRAWAL SCALE

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1. The website for the scales is www.uvm.edu/~hbpl. There are two scales: one for self-report and one for observer report. The scales were originally reported in 1986 (see reference #5). The scales have changed over time; e.g., the original scale included physical symptoms. The current best reference for the scales and their validity is reference #3.
2. Attached are the criteria for nicotine/tobacco withdrawal from the American Psychiatric Association's Diagnostic and Statistical Manual, Fourth Edition-Revised (DSM-IV) and from the World Health Organization's International Classification of Disease, Tenth Edition (ICD-10). Our scale includes most but not all symptoms from each. Our inclusions/exclusions are based on our review of the scientific literature. Thus, one option is rather than use our scale, use our format but include only DSM-IV or only ICD-10 items.
3. Although we use a 0-4 response options, others use different response options (e.g., 0-3, 1-4, 0-100). The researcher should choose the response options based on the study needs and describe the options in the manuscript. As a result of using different response options, withdrawal scores typically cannot be compared across studies. Increasing the range of response options or using visual analog scales increases sensitivity. Including verbal anchors helps greatly in interpreting clinical significance.
4. There are no true population norms. The best estimate for norms for US smokers is reference #3.
5. The scale has not only been used with cigarette smokers, but with smokeless tobacco users and adolescents (see reference 18 and 19).
6. The scale has been translated into Czech, Danish, Dutch, French, German, Norwegian, Spanish and Swedish by Mapi Research Institute. To obtain these translations, go to www.mapi-research-inst.org.
7. You can report an overall "withdrawal discomfort score" either as a sum or average. This overall score can be restricted to DSM symptoms, to ICD symptoms or to non-craving symptoms.

8. Typically, we have subjects rate symptoms each evening based on that day and observers rate once a week based on that week. The forms can also be used to rate how a subject feels “right now” (except for insomnia).
9. The scales have been subjected to few psychometric tests (see ref #9). The few tests suggest the self-report scales are reliable, valid and have at least 3 factors.
10. Better objective measures to complement self-report are heart rate, weight and performance on simple vigilance tasks.
11. Several pre-cessation scores are helpful as often these change with repeated testing (see ref #11). More than one post-cessation score is necessary to distinguish between transient (i.e., withdrawal) phenomena vs uniphasic (i.e., offset) phenomena.
12. The best control groups are long-term exsmokers and continuing smokers. Never-smokers can also be helpful.
13. The scale is not labeled a withdrawal scale because subjects 1) are confused by filling out a “withdrawal” scale prior to cessation, and 2) will sometimes not report a symptom if they do not believe it is due to withdrawal
14. There are several analysis issues, e.g., sample selection (use of only those abstinent vs intent-to-treat sample), time course (use of serial cross-sections vs. longitudinal data), and statistical test (use of change scores vs. ANCOVAs). References 2,3,4,6,7,9 and 16 discuss these issues.
15. Other withdrawal scales are available from Tim Baker at University of Wisconsin tbb@ctri.medicine.wisc.edu, Jean-Francois Etter at University of Geneva jean-francois.etter@imsp.unige.ch, Nina Schneider at UCLA ngs@ucla.edu, Saul Shiffman at University of Pittsburgh shiffman@pinneyassociates.com and Robert West at University College of London robert.west@ucl.ac.uk . We have not compared our scale with these.
16. We would appreciate any feedback on the utility of the scale and receipt of any articles in which the scale is used.
17. One of us (JH) is assisting in a web survey on withdrawal. We would appreciate referrals of current and exsmokers to <http://www.stop-tabac.ch/en/CWS/>

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