

Reviewer's report

Title: A review on the applicability of non-invasively collected matrices for human biomonitoring

Version: 1 **Date:** 25 September 2008

Reviewer: Gerald Moy

Reviewer's report:

Major compulsory revisions

None

Minor essential revisions

1. The title of the paper suggests an all inclusive review of the subject, but only selected matrices are covered. A paragraph with references to the other non/invasive reference would solve this to include: feces, finger and toe nails, earwax and saliva.
2. While the discussions of specific matrices refer specific biomarkers of effect, the linkage in the validation section with these biomarkers is often not clear.
3. Please use the term "human milk" in discussing biomonitoring as reference to "breast milk" is used when discussing breastfeeding.
4. Line 45, the word "routinely" may need to be revised.
5. Line 82, "efficacy" is also important to mention.
6. Line 89, "useful better to" should be revised.
7. Line 99, "National Children's Study" should mention country.
8. Line 101, "setup" might be better as "protocol"
9. Line 104, "concerns" might be better as "advantages"
10. Line 165, "mother" might be better as "parent"
11. Line 217, "babies" might be better as "infants"
12. Line 219, "babies" might be better as "the fetus"
13. Line 240, another problem of cord blood is that births are largely unpredictable and that the person taking the sample would be on 24/7 call.
14. Line 261, the statement that dried umbilical cord tissue was a good alternative to cord blood needs qualification
15. Lines 348 to 353, the exposure to POPs in human milk is known to contribute to the body burden of infants. However, for most POPs, the critical exposure is actually in utero so that in almost all instances, the established benefits of breastfeeding, outweigh the risks. Suggest this be toned down.

16. Line 367, check reference 54 against the statement given.
17. Line 533, in "of include" insert "hair"
18. Line 585, delete "development"
19. Line 590, replace "cheap" with "inexpensive"
20. Line 591, "Furthermore" should begin a new paragraph dealing with the use of hair for both short- and long-term exposure as the restrictions listed below deal with this issue.
21. Line 617, "efficacy" might be mentioned.

Discretionary Revisions

1. The authors may wish to consider referencing some international standard texts on biomonitoring, such as

Biomarkers and Risk Assessment: Concepts and Principles, Environmental Health Criteria 155, International Programme on Chemical Safety, World Health Organization, Geneva 1993

Biomarkers in Risk Assessment: Validity and Validation, Environmental Health Criteria 222, International Programme on Chemical Safety, World Health Organization, Geneva 2001

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests