Dragon, Karen E. (CDC/NIOSH/EID)

From: Bruce Chaffee [bwc@med.umich.edu]
Sent: Tuesday, June 23, 2009 1:50 PM
To: NIOSH Docket Office (CDC)
Subject: 105a - Haz Drug Appx A Rev
Attachments: NIOSH Docket #105-A.doc

To Whom it May Concern:

Please find attached comments from Drs. James Stevenson and Bruce Chaffee from the University of Michigan Health System.

Thank you,

Bruce Chaffee, Pharm.D.

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University of Michigan
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June 23, 2009

NIOSH Docket Office
Robert A. Taft Laboratories
4676 Columbia Parkway, MS C-34
Cincinnati, OH 45226

Re: DRAFT Proposed Additions and Deletions to Appendix A of NIOSH Alert on Hazardous Drugs (April 6, 2009) - NIOSH Docket #105-A.

Dear Sir/Madam:

The University of Michigan Health System (UMHS) is pleased to submit written comments pertaining to the NIOSH "Proposed Additions and Deletions to Appendix A of the NIOSH Alert on Hazardous Drugs" listed on April 6, 2009. The UMHS is a 913-bed academic medical center consisting of three hospitals, approximately 120 outpatient clinics, and 40 health centers, including a comprehensive cancer center. Services are provided to geriatric, adult, pediatric, and neonatal patients in a variety of general care and specialty units.

The UMHS is supportive of NIOSH efforts to provide organizations and workers with guidance about the risks associated with occupational exposure to hazardous drugs and the provision of a list of drugs deemed by NIOSH to be potentially hazardous. Hospitals have struggled to define the best manner to implement guidelines specific to their practice environment.

Over the course of the past year, the UMHS has been working with several peer institutions within the University Health-Systems Consortium (UHC) to construct guidelines which may help other UHC member hospitals develop their own policies to ensure the safe handling, preparation, administration and disposal of hazardous drugs. One of the objectives was to define a consensus-based list of drugs deemed to require special handling as a hazardous agent. We wish to share with you the results of our efforts for your consideration in relation to the list developed by NIOSH. Based on these discussions, the UMHS is advocating that hospitals consider a tiered approach (with high, low, or reproductive risk categories) towards classifying hazardous drugs based upon:

- the job responsibility of the employee (preparation, administration, transportation)
- the potential route(s) and risk of exposure given the level of product handling and manipulation (manufacturer supplied container, repackaged, manipulated)
- the molecular size of the drug (kilo Dalton size - very large molecules greater than 500 daltons in size are not absorbed transcutaneously through intact skin[1])
- the nature of reproductive status of the employee
- the inherent toxicity of the drug as indicated in the product information

As an example, the UMHS considers hazardous medications that are administered orally to be low hazardous risk unless they are manipulated in a manner that is likely to increase the risk to the employee. Typically, at our facility, oral dosage forms are directly transferred from manufacturer supplied packaging to plastic administration cups or the patient's hand so that there is no direct contact for the employee. For drugs we classify as low hazardous risk, we advocate that gloves would be worn as a further precaution. Further, in the rare circumstance that the outer part of the tablet or capsule is touched, nurses should wash their hands, which is currently done upon entry and departure from the patient's room for infection control purposes.

A number of drugs are excluded from the hazardous drug list, but are considered to be drugs institutions may want to discuss further based upon the effects of the drug on the reproductive system of patients who ingest them. We have not found data demonstrating risks to employees who handle these medications provided that the medication transfer technique described above is used. The UMHS review of NIOSH recommendations are listed as the last column in the attached table for each agent in the "NIOSH Proposed Additions and Deletions to Appendix A."

Conclusion

UMHS supports NIOSH efforts to provide organizations and workers with guidance about the risks associated with occupational exposure to hazardous drugs and the provision of a list of drugs deemed by NIOSH to be potentially hazardous. From a hospital practice perspective, we advocate a tiered approach and have several suggested modifications to the list as indicated in the included table. UMHS appreciates this opportunity to present its written comments on the proposed changes to the NIOSH list of hazardous drugs. Feel free to contact me if you have any questions regarding our comments. I can be reached by telephone at 734-936-8210, or by e-mail at jimsteve@med.umich.edu.

Sincerely,

James G. Stevenson, Pharm.D., FASHP
Director of Pharmacy, University of Michigan Hospitals and Health Centers and
Associate Dean for Clinical Sciences, University of Michigan College of Pharmacy

Bruce W. Chaffee, Pharm.D.
Clinical Pharmacist, Clinical Informatics and Outcomes and
Adjunct Clinical Associate Professor of Pharmacy, University of Michigan

References

1. Bos JD, Meinardi MMHM. The 500 Dalton rule for the skin penetration of chemical compounds and drugs. Exp Dermatol 2000: 9: 165–169

UMHS Recommendations for Appendix A of NIOSH Alert on Hazardous Drugs (April 6, 2009) – Changes to Additions

Established Name	Proprietary Name	AHFS Classification	UMHS Review and Recommendations for NIOSH
Alafacept	Amevive®	84.92 Miscellaneous skin and mucous membrane agents	Exclude. Exposure risk limited based on large 91 kDa molecular size.
Bortizomib	Velcade®	10:00 Antineoplastic agents	Agree with classification – listed as high risk.
Bosentan	Tracleer®	24:12.92 Vasodilating agents	Exclude: Recommend that institutions discuss.
Clofarabine	Clolar™	10:00 Antineoplastic agents	Agree with classification – listed as high risk.
Dasatinib	Sprycel®	10:00 Antineoplastic agents	Agree with classification – listed as low risk (oral).
Decitibine	Dacogen™	10:00 Antineoplastic agents	Agree with classification – listed as high risk.
Entecavir	Baraclude®	8:18.32 Antiviral Nucleocide	Exclude: Long term studies in mice were at doses 3-42 times the human dose; but limited exposure risk when using proper precautions (oral drug). NOTE: conflicting information - this was also on the ***NIOSH Response to Peer Review Comments*** "not included" list.
Infliximab	Remicade®	92:00 Biological Response Modifers	Exclude. Exposure risk limited based on large 144 kDa molecular size.
Interferon beta 1a	Avonex®	92:00 Biological response modifiers	Exclude. Exposure risk limited based on large 19 kDa molecular size.
Interferon beta 1b	Betaseron®	92:00 Biological response modifiers	Exclude. Exposure risk limited based on large 19 kDa molecular size.
Lenalidomide	Revlimid®	92:00 Miscellaneous therapeutic agents	Exclude: Recommend that institutions discuss.
Medroxyprogesterone acetate	Depo-Provera®/Provera®	68:32 Progestins	Exclude: Recommend that institutions discuss.
Nelarabine	Arranon®	Not in AHFS	Agree with classification – listed as high risk.
Palifermin	Kepivance™	84:16 Cell stimulants	Exclude. Exposure risk limited based on large 16 kDa molecular size.
Paroxetine HCl	Paxil®	28:16.04.20 Selective seretonin uptake inhibitors	Exclude: Exposure risk demonstrated for pregnant women ingesting the drug; but limited exposure risk when using proper precautions (oral drug).
Pemetrexed	Alimta®	10:00 Antineoplastic agents	Agree with classification – listed as high risk.
Pentetate calcium trisodium	Pentetate Calcium Trisodium	Not in AHFS	Agree with classification – listed as high risk.

Established Name	Proprietary Name	AHFS Classification	UMHS Review and Recommendations for NIOSH
Rasagiline mesylate	Azilect®	28:36 Antiparkinsonian agents	Exclude: Effects in rats at doses producing serum levels 10 and 16 times maximum human recommended dose; but limited exposure risk when using proper precautions (oral drug). NOTE: conflicting information - this was also on the ***NIOSH Response to Peer Review Comments*** "not included" list.
Risperidone	Respidal®/Respidal Consta®	28:16.08.04 Atypical antipsychotics	Exclude: Significant increases in adenomas and adenocarcinomas in mice, probably (increased) prolactin mediated; but limited exposure risk when using proper precautions (oral drug).
Sirolimus	Rapamune®	92:00 Innumosuppressive agents	Agree with classification – listed as low risk (oral).
Sorafenib	Nexavar®	10:00 Antineoplastic agents	Agree with classification – listed as low risk (oral).
Sunitinib malate	Sutent®	10:00 Antineoplastic agents	Agree with classification – listed as low risk (oral).
Vorinostat	Zolinza™	10:00 Antineoplastic agents	Agree with classification – listed as low risk (oral).
Zonisamide	Zonegran®	28:12.92 Anticonvulsant	Exclude: Reproductive toxicity and teratogenicity in animal models at concentration similar to those used in humans, but limited exposure risk when using proper precautions (oral drug).

UMHS Recommendations for Appendix A of NIOSH Alert on Hazardous Drugs (April 6, 2009) – Changes to Deletions

Established Name	Proprietary Name	AHFS Classification	UMHS Review and Recommendations for NIOSH
Bacillus Calmette-Guerin	(BCG) Theracys®	80:12 Vaccines	Agree that it requires special handling and should not be prepared along with other hazardous drugs because of cross contamination issues, but disagree with removal. Should be footnoted as requiring special preparation techniques along with recommended procedures.