

ASHP Statement on the Pharmacist's Role with Respect to Drug Delivery Systems and Administration Devices

Technological advances in drug delivery systems and administration devices frequently enable improved control of drug administration. Such advances may offer numerous potential benefits to patients, including improved therapeutic outcomes in disease management, improved patient compliance with drug regimens, and greater efficiency and economy in disease therapy. These advances constitute an important aspect of pharmaceutical knowledge and are routinely incorporated into pharmacy practice as they occur.

A drug delivery system is defined as one in which a drug (one component of the system) is integrated with another chemical, a drug administration device, or a drug administration process to control the rate of drug release, the tissue site of drug release, or both. A drug administration device is an apparatus that is used for introducing a drug to the body or controlling its rate of introduction. Drug delivery systems include (but are not limited to) osmotic pumps, thermal isolation, transdermal patches, liposomal encapsulation, iontophoresis, phonophoresis, magnetic migration, and implantation. Drug administration devices include (but are not limited to) mechanical (e.g., balloon-driven), gravity-driven, and electromechanical pumps. Some of the latter are portable, implantable, computer controlled, or patient controlled. Some enable the simultaneous infusion of multiple drugs. Drug administration control devices include plasma concentration monitoring and administration rate monitoring devices, which incorporate computers.

Pharmacists bear a substantial responsibility for ensuring optimal clinical outcomes from drug therapy and are suited by education, training, clinical expertise, and practice activities to assume responsibility for the professional supervision of drug delivery systems and administration devices. As a natural extension of efforts to optimize drug use, pharmacists should participate in organizational and clinical decisions with regard to these systems and devices. Some decisions and activities in which pharmacists should participate follow. Others may be appropriate as well.

1. Research and development of innovative drug delivery systems and administration devices.
2. Evaluation and research to determine the direct and comparative efficacy, safety, and cost-effectiveness of specific drug delivery systems and administration devices.
3. In conjunction with pharmacy and therapeutics committees (or other appropriate medical staff committees), decisions to choose or exclude particular drug delivery systems and administration devices for use in specific organizational settings.
4. Development of organization-specific policies and procedures regarding the acquisition, storage, distribution, use, maintenance, and ongoing product quality control of drug delivery systems and administration devices.
5. Choice of a particular drug delivery system or administration device for use in a specific patient's drug therapy.
6. Direct communication with patients to instruct them in the use of such systems and devices and to gather information necessary to monitor the outcome of their therapy.
7. Monitoring of the ongoing clinical effectiveness and suitability of specific drug delivery systems or administration devices with respect to specific patients and the communication of clinically relevant observations and recommendations to prescribers and other health professionals involved in the patients' care.

Failures or malfunctions of drug administration devices may lead to patient harm. Reports of such problems should be made in accordance with the provisions of the Safe Medical Devices Act of 1990 (PL 101-629).

Recommendations for Additional Reading

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- This statement was reviewed in 1998 by the Council on Professional Affairs and by the ASHP Board of Directors and was found to still be appropriate.
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