Responding to drug information requests

A pharmacist is busy entering a complicated order into the pharmacy computer system when the phone rings. The caller asks, "What is the dose of Lovenox?" The pharmacist places the caller on hold and logs on to a computerized drug information (DI) resource or opens up a book, locates an answer, and provides a response to the requester. Once the conversation is over, the pharmacist resumes entering medication orders. As simplistic as this scenario may seem, responding to DI requests is an intricate matter that requires proper training.

Despite the fact that today’s graduates from schools of pharmacy are exposed to a degree of DI instruction, a critique of the appropriate management of DI requests is warranted. Several references have been published on the topic of DI.1-4 These references, which include chapters on the process of answering DI queries, are used to instruct student pharmacists and are available for any pharmacist who wishes to review the topic. Additionally, in 1996, the American Society of Health-System Pharmacists published guidelines on the provision of medication information by pharmacists.5 These guidelines outlined a method for properly responding to a DI request. The aim of this article is to provide pharmacy practitioners with a practical guide on answering DI queries in an institutional setting; however, many of these principles apply to pharmacists practicing in other settings as well. It is important to note that possessing the skills necessary to properly answer DI requests is not the sole domain of pharmacists practicing in DI centers; rather, these skills are essential for all practicing pharmacists regardless of their practice settings.

The systematic approach. A five-step systematic approach to responding to DI queries was introduced by Watanabe et al. in 1975.6 Watanabe’s method instructed student pharmacists on how to manage DI requests. Over the past 30 years, modifications to this approach have been introduced5,7; however, the basic concepts of Watanabe et al. have remained the "gold standard" for answering DI queries. Although there have been substantial changes in the available DI references, as well as in their delivery platforms, the logic behind the systematic approach remains as true today as it was 30 years ago.

The key elements incorporated into any systematic approach to answering DI queries include (1) obtaining information about the requester, (2) determining the true DI need, (3) classifying the request, (4) conducting an efficient search using available resources, (5) evaluating the literature and disseminating the information to the requester, and (6) following up when appropriate.

Obtaining information about the requester. The initial step in the systematic approach is identifying the requester. It is the responsibility of the recipient of the call to request information about the caller, as well as provide identification as the responder. In order to provide a response that meets the needs of the requester, demographics of the caller, including professional background (e.g., physician, nurse, physician assistant, pharmacist) and contact information must be obtained. The professional background of the caller dictates the depth or focus of research to be conducted and determines the language to be used in the formulation of the final response. Failure to obtain this information from the requester may be problematic. For instance, after the pharmacist has provided the requester with information and completed the call, he or she may obtain additional, or even contradictory, data on the topic. In such cases, it is the pharmacist’s professional and legal obligation to contact the requester and update him or her with the new information. Similarly, the pharmacist may need to contact the requester for follow-up questions or additional information that may modify the response.

Determining the true DI need. Oftentimes, the true DI need may not be the initial DI request. Consider the
example given at the beginning of the article. This may seem like a simple request for a dosing recommendation of enoxaparin for a patient; however, it is possible that the pharmacist will need to evaluate another aspect of this drug therapy. For instance, the requester may have a patient who has been on unfractionated heparin and developed heparin-induced thrombocytopenia (HIT). Knowledge of this information may introduce a different angle to the search. At this point, the request is no longer a simple dosing question. Instead, the question is whether or not low-molecular-weight heparins can be used in a patient who developed HIT. In general, the pharmacist should always ask the requester why the question is being asked and if the question is patient related.

Once the pharmacist has determined the requester’s information needs, the pharmacist may need to request patient-specific information in order to answer the question appropriately. This information may include the patient’s name, medical record number, location, other patient demographics (e.g., height, weight, age), and laboratory data (e.g., drug level, serum creatinine level, liver enzymes levels). Depending on the format of the patient medical records at the institution, a pharmacist may be able to easily access the patient’s complete profile, in which case this information should always be obtained. Since the pharmacist may not be aware of all the required information at the time of the original intake of the question, it may be necessary for the pharmacist to call the requester back and ask for this information. Additionally, the pharmacist may opt to reserve these questions until he or she replies to the requester when the response can be tailored to the patient’s specific needs. Most requesters desire a quick response and may not understand the need to provide additional information or to clarify the question being asked. The pharmacist must explain that this information is necessary in order to provide an appropriate response.

The pharmacist in the scenario at the beginning of this article placed the caller on hold while searching for the requested information. This practice may be counterproductive for two reasons. First, placing the caller on hold creates urgency. The sense of urgency may prevent the pharmacist from conducting a thorough search and may result in a response that is incomplete or even inaccurate. Second, depending on the length of the search, the requester may not be able to hold until the answer is found and subsequently will hang up the telephone before the pharmacist can deliver a response. To avoid these problems, the pharmacist should tell the requester that he or she will need to conduct a search and get back to the requester once a response is obtained. On occasion, an immediate response may be required and it may be necessary to conduct a quick search while the requester is on hold; however, this should be an exception rather than the rule. In some cases, a follow-up search may be necessary.

Classifying the request. Classifying the request into a question category (e.g., dosing, adverse reaction, pharmacokinetics) may be a part of a mental process or formal documentation of a DI response. Request classification assists the pharmacist in developing a search strategy by identifying the appropriate references that contain the information requested. Classification of the request also allows for assessment of the types of DI requests received, which may be useful when allocating financial resources for the purchase of DI references.

Conducting an efficient search using available references. Once the request is classified, a search for information should be initiated. Using a stepwise approach, most searches should begin by using tertiary literature (e.g., reference books, Micromedex Healthcare Series, Clinical Pharmacology), followed by secondary indexing and abstracting databases (e.g., MEDLINE, International Pharmaceutical Abstracts), leading to primary literature (e.g., journal articles describing original work) when necessary. Tertiary literature provides a compilation of information gathered from primary literature and other resources. Turning to tertiary literature resources first enhances the search’s efficiency by readily providing a broad picture of the topic searched. However, tertiary literature may be limited by the date of publication and the depth and detail of information on the topic searched. When it is suspected that more recent information is available on the topic, or when more detailed information is needed, it may be necessary to search for additional information, which may be published in journal articles. Since it is impractical or even impossible to search for journal articles directly, it is necessary to use secondary indexing and abstracting services to locate the information published in journals. Making clinical decisions based on the information found in article abstracts is tempting but almost always inappropriate. Abstracts provide a summary of the article and therefore do not necessarily provide all the details necessary to make a clinical decision. The abstract should only serve as a tool to decide whether the article is pertinent to the search. If so, the article should be read in order to make a clinical decision. In years past, most secondary databases only provided citations of articles and abstracts, but today, when searching MEDLINE through PubMed (www.pubmed.gov), certain full-text articles are available for free download while others are available for downloading for a fee. Furthermore, when practicing in an institutional setting, such as a hospital, full-text journal articles that would otherwise be available through a fee-for-use download may be available to the user through a contract with the institution’s library.

When a journal article is obtained, it must be read carefully and evaluated before making clinical decisions. It is important to note the publication type (e.g., clinical trials, meta-analysis, review, case report) in order to analyze and interpret the data appropriately. When evaluating a clinical trial, specific considerations must be given to the patient population discussed in the article in comparison with the patient for whom the information is needed. It is common for more than one article to be found on the topic searched, and sometimes the information in the different articles is conflicting. It is the pharmacist’s responsibility to evaluate both articles and, when necessary, to report the conflicting information found.
In general, Internet searches should be reserved for when primary, secondary, and tertiary resources have been exhausted; however, the Internet may be an excellent resource for certain questions. For instance, for questions concerning immunization issues, the Centers for Disease Control and Prevention website (www.cdc.gov) is a useful source of information. The U.S. Food and Drug Administration website (www.fda.gov) is another useful website. Similarly, when a question arises concerning a formulation of a branded dietary supplement, the Internet may be the only resource available to provide a list of the active ingredients in the formula. However, Internet searches may not target the types of literature that are necessary for making a clinical decision and reviewing the results obtained through an Internet search may be time-consuming. When the Internet is used as a resource for medical information, the source of the information must be closely scrutinized to ensure credibility and lack of bias. A noncommercial domain (e.g., .gov, .edu, .org), presence of references, currency of information, contact information, authorship information, and Health on the Net Code accreditation are all things to consider when checking for credibility.

Efficient searches depend on the ability of the pharmacist to locate information quickly. This requires a pharmacist to be aware of the institution’s DI and library resources, including availability of print and electronic tertiary references; familiarity with available secondary databases; and ability to access full-text journal articles electronically, in print, or via interlibrary loan services.

**Evaluating the literature and disseminating the information to the requester.** It is a common practice for pharmacists to simply forward the information found (e.g., review article, copy of the page from a reference, printout from an Internet website) to the requester without proper analysis or description of the information. This method of responding to DI requests may be most convenient and at times may be appropriate; however, it is always necessary for the pharmacist to evaluate and analyze the information found. This evaluation and analysis include assessing the ability to extrapolate the information found to the presented scenario and integrating information and experience. The pharmacist may also consider consulting with other colleagues, because their input may be a valuable addition in terms of experience or interpretation of information.

The oral or written response should be tailored to the requestor’s needs, keeping language, depth, and scope of content in consideration. Acquiring proper literature evaluation skills is important for practicing pharmacists; however, an in-depth discussion of this topic is out of the scope of this article.

In general, the response should begin with restating of the question, ensuring that the pharmacist’s understanding of the question was correct. This should be followed by describing the resources used for the search and the information found in each of the sources. When reporting information obtained via a secondary source, it is important to provide the article’s citation. Likewise, when reporting information found through an Internet search engine, it is important to provide the specific website in which the information is found. When a written response is prepared, it is advised that the response be concise, focusing on the question asked. Formulating a lengthy written response may result in the response being lost among the other information provided in the response letter. A requester is more likely to read a letter that is comprehensive and concise. A letter should be accompanied by complete references, unless otherwise indicated.

**Following up.** While following up on a completed response is not always feasible, it should be done when possible. One example of a follow-up is when a dose of an antibiotic is recommended by the pharmacist and a follow-up is warranted to ensure that proper blood levels are attained and that no modifications to the original recommendations are necessary. A pharmacist constrained by time may need to provide an immediate response to a DI request; however, he or she may have to conduct (or request a colleague to conduct) a more extensive search when an opportunity arises. When additional information is found, it is necessary to contact the requester and provide this additional information.

**Conclusion.** Using the systematic approach to answering DI questions is essential for providing efficient pharmaceutical care. Like other pharmacy functions, it is an acquired skill which improves with proper training and experience.


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*The authors have declared no potential conflicts of interest.*

DOI 10.2146/ajhp080363