Articles submitted for publication to The Annals of Pharmacotherapy should advance the safe, effective, and economical use of medications in patients.

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**Article Categories**

**Research Reports:** Original research involving medication effectiveness, safety, pharmacoeconomics, pharmacokinetics, pharmacogenomics, interactions, adherence and use, and pharmacy practice. Meta-analyses are also considered research. Well-designed prospective studies are given highest priority for acceptance. Limitations of studies must be stated in the text. All reports must include, when applicable, a statement in the Methods section that the work was conducted in compliance with Institutional Review Board/Human Subjects Research Committee requirements.

Abstract: no more than 250 words; Text: 3000 words
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**Review Articles:** Comprehensive, significant, critical, and analytical reviews that include essential information on a well-delineated subject. Reviews must synthesize and critically evaluate available data rather than simply describing the findings. Articles are classified using the subcategories below:

**Specialties:** Reviews within a specific clinical area (e.g., cardiology, critical care, infectious diseases, oncology, pediatrics, psychiatry), drug interactions and reactions, and other areas such as pharmacoeconomics or pharmacoepidemiology.

Abstract: no more than 250 words; Text: 4500 words
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**Formulary Forum:** Comprehensive, comparative reviews of single drug entities to aid in the understanding of the merits of the agent relative to others in its class.

Abstract: no more than 250 words; Text: 4000 words
References: 100; Tables/figures: 4

**New Drug Approvals:** Brief reviews of single drug entities that have recently received FDA approval.

Abstract: no more than 250 words; Text: 2000 words
References: 50; Tables/figures: 2

**Drug Selection Perspectives:** Comparisons of drugs within a class or in different classes with the same indication(s).

Abstract: no more than 250 words; Text: 4000 words
References: 100; Tables/figures: 4

**Therapeutic Controversies:** Critical and balanced assessments of current problems or controversial issues in clinical therapeutics that provide recommendations based on literature and clinical experience.

Abstract: no more than 250 words; Text: 4000 words
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**Therapeutic Monitoring:** Reviews of drug therapy monitoring for purposes of optimizing treatment in individual patients or populations.

Abstract: no more than 250 words; Text: 4000 words
References: 100; Tables/figures: 4

**Drug Information Rounds:** Answers to specific questions related to drug therapy that include recommendations based on available studies.

Abstract: no more than 250 words; Text: 2500 words
References: 25; Tables/figures: 1

**Case Reports:** New or unusual events in one or more patients that expand the knowledge about common disease states or provide significant information about drug safety, adverse reactions, or interactions. Clinical and laboratory data and concurrent medications or diseases should be documented. Case reports describing adverse events should adhere to the International Society for Pharmacoepidemiology and International Society of Pharmacovigilance’s Guidelines for submitting adverse event reports for publication (Pharmacoepidemiol Drug Saf 2007;16:581-7. DOI 10.1002/pds.1399). Before submitting a report of an adverse drug reaction, the Naranjo ADR probability scale (Clin Pharmacol Ther 1981;30:239-45) or other validated scale should be used to assess the likelihood that the events were drug-related. Likewise, for reports of drug interactions, the DIPS scale (Ann Pharmacother 2007;41:674-80. DOI 10.1345/aph.1H423) or another validated scale should be applied. Ranking from the scale must be included in both abstract and text. Priority is given to cases for which the scores indicate a probable or definite association.

Abstract: no more than 250 words; Text: 2500 words
References: 25; Tables/figures: 4

**Special Contributions:** Articles on unusual, topical, or historical subjects that are of unique interest or importance. Contact the Editorial Office prior to submission.

**Editorials and Commentaries:** Viewpoints on diverse, controversial, or topical subjects. Contact the Editorial Office prior to submission.

Abstract: 100 words (unstructured); Text: 1500 words
References: 15; Tables/figures: 1

**Letters and Comments:** Letters and comments should address areas related to clinical practice, research, or education, including recently published articles. Letters are limited to no more than five authors. In cases where adverse effects or drug interactions are described, the Naranjo ADR or DIPS probability scales should be used to determine
Research Reports

Background
Brief (2–3 sentences) description of why the study is needed and its importance to the field.

Objective
1. Concise (1–2 sentences) statement of the objective or hypothesis to be addressed.
2. Primary objective identified and stated first, followed by any key secondary objectives.

Methods
1. Design: Clear statement of the study’s design, including all aspects (eg, parallel group, randomized, blinded).
2. Participants and setting: The most pertinent inclusion and exclusion criteria, and the setting within which the study was conducted.
3. Interventions: Complete details on treatment (eg, drug dose, route of administration, and duration of administration) and, if pertinent, control interventions.
4. Outcome: Primary and secondary outcome measures, identified as such.

Results
1. Number of participants: Total number, with breakdown into defined groups (eg, treatment, control) shown, followed by number of participants analyzed, again with breakdown into defined groups shown.
2. Outcome: Numbers of participants and events shown, with summary of the outcome in each group reported as effect size (eg, relative risk, odds ratio) and precision (confidence interval). Data on all outcome measures and any negative and/or nonsignificant findings must be included.
3. Adverse events/safety: Any unintended effects shown; if none, that should be stated.
4. Limitations: Factors affecting accuracy or generalizability of results (eg, small sample size, open-label design).

Conclusions
1. Conclusions (not summary) of the study, based only on the results shown, with balance of benefits and harms.
2. Clinical application of the findings, again based only on the data obtained (ie, avoid over-generalization)
and whether more study is needed before findings should be implemented into clinical practice.

Research Report abstract example:

**Background:** No previous studies exist examining implementation of an institution-wide guideline and order set for hyperglycemic emergencies (diabetic ketoacidosis [DKA] and hyperosmolar hyperglycemic state [HHS]).

**Objective:** Evaluate the impact of an institutional guideline and order set for hyperglycemic emergencies. **Methods:** This retrospective descriptive study evaluated DKA or HHA patients. Two time periods were evaluated: phase 1 (PRE) assessed practice preguideline implementation, and phase 2 (POST) assessed practice postguideline and order set introduction. **Results:** A total of 172 patients (91 PRE and 81 POST) were included in the analysis. There was no difference in the mean hospital length of stay (LOS) in the PRE versus POST groups (5.2 ± 4 vs 5.9 ± 8.6 days, P = .49); mean intensive care unit (ICU) LOS was shorter in the POST group (64.8 ± 19 vs 37.1 ± 74.8 hours, P < .01). The POST group had an increase in frequency of assessments for clearance of urinary ketones (18 vs 33.3%, P = .03) and β-hydroxybutyrate (16 vs 37%, P < .01). Frequency of point-of-care glucose testing (12.5 ± 4.6 vs 15.1 ± 4.7, P < .01) and time to anion gap closure (13 ± 9 vs 9.3 ± 7.4 hours, P < .01) improved in the POST group. There was no difference in the number of patients experiencing hypoglycemia or hypokalemia between both groups. **Conclusions:** Implementation of an institutional guideline and order set for hyperglycemic emergencies decreased ICU LOS and time to anion gap closure, with no difference in rates of hypoglycemia.

Review Articles (including Drug Information Rounds)

**Objective**
Explain the rationale and goals for the review.

**Data Sources**
Provide specific search details in the abstract and specify the resources employed in the search and include date ranges, search terms, and limits.

**Study Selection and Data Extraction**
Quantify the original reports included and how they were chosen, as well as the methods used for abstracting the data.

**Data Synthesis**
Summarize main results and provide interpretation of the data from various studies.

**Conclusions**
Summarize the key “take-home” points from the review. NOTE: Reviews that can only conclude with the suggestion that “additional studies are needed” will be of a lower priority than reviews that can provide direct clinical recommendations or assessments as based on the literature being reviewed.

Review Article abstract example:

**Objective:** To review the possible association between azithromycin and increased cardiovascular risk. **Data sources:** A MEDLINE literature search MEDLINE (1946-August 2013) was performed using the search terms macrolide, azithromycin, QT prolongation, cardiovascular, and torsade de pointes. Additional references were identified from a review of literature citations. **Study selection and data extraction:** All English-language observational studies and case reports assessing the association between azithromycin and QT prolongation or cardiovascular risk were evaluated. **Data synthesis:** A total of 6 case reports have shown this possible association. In 3 of these cases, proarrhythmic events were reported. In a prospective observational study of 47 individuals with low cardiovascular risk, electrocardiograms were compared before and after 5 days of azithromycin treatment. A mild statistically insignificant prolongation of the QTc was noted. No arrhythmias were observed. A large observational cohort study reported a small increase in cardiovascular deaths after azithromycin therapy, primarily among patients with high baseline cardiovascular risk. Conversely, a second cohort study involving a population of young to middle-aged adults failed to find an association. **Conclusions:** Azithromycin therapy may prolong the QT interval and, in rare cases, precipitate the potentially fatal arrhythmia torsade de pointes. Patients with additional risk factors for QT prolongation appear to be at highest risk, including women, elderly individuals; those with existing or prior history of cardiovascular disease, QT interval prolongation, hypokalemia, hypomagnesium, or bradycardia; and those using concomitant drugs associated with QT prolongation. For patients without these additional risk factors, azithromycin appears to be relatively safe.

Case Report abstract example:

**Objective:** To report a lack of activated partial thromboplastin time (aPTT) correlation with plasma argatroban concentrations in a patient with elevated factor VIII levels who was diagnosed with heparin-induced thrombocytopenia (HIT). **Case Summary:** A 59-year-old female with a history significant for basal cell carcinoma underwent resection of a third ventricle mass. Postoperative hospital course was complicated by subdural hematoma, HIT, and pulmonary embolism. Despite administration of significantly higher than usual doses of argatroban (up to 7 μg/kg/min) there was difficulty in maintaining therapeutic aPTT values. A coagulation abnormality was suspected and
an argatroban concentration showed an elevated level of 2.2 μg/mL (therapeutic range 0.4-1.2), with a corresponding aPTT of 53.1 seconds. Coagulopathy workup revealed an excess of factor VIII activity. Therefore, argatroban concentrations were used for dose adjustments and the infusion was titrated to a final rate of 2.75 μg/kg/min.

**Discussion:** The lack of correlation of aPTT values with argatroban administration has not been described in the literature and, to our knowledge, similar cases have not been reported. We were unable to achieve an increase in aPTT despite aggressive argatroban dosing in a patient with increased factor VIII activity. A definitive mechanism is thought to be secondary to contributing underlying causes such as excessive clotting factors, circulating inflammatory proteins, or other aspects. **Conclusions:** With argatroban initiation particular attention should be given to ensure that aPTTs correlate with dosing to prevent life-threatening bleeding complications. Excessive argatroban dosing requirements should prompt further investigation into potential confounders such as elevated factor VIII levels.

**Text:** Appropriate headings and subheadings should be used liberally throughout the text.

Abbreviations must be defined upon first use in the text. Use of abbreviations should be limited to, for example, lengthy terms; the majority of drug names should not be abbreviated. USANs or, when appropriate, chemical names, must be used for all drugs. Manufacturers’ code numbers should be used only when a generic name is not yet available. Trade names should be included only to distinguish between different trade preparations, for some combination drugs, or in reviews of drugs that have been recently approved by the FDA.

**References:** All references, including those related primarily to figures and tables, must appear in the text and should be cited consecutively. References in text, tables, and figure legends should be denoted with superscript Arabic numerals. Personal communications (ie, unpublished data) may not be used as numbered references. Information obtained through personal communication must be inserted in parentheses within the text and include the contact person’s name, academic degree, affiliation, and date of communication. Signed permission letters from quoted sources indicating the content of the personal communication must be provided to the Editorial Office. Abstracts and Letters to the Editor may be used as numbered references but must be identified as such in the citations. Inclusive pagination must be provided for all references. Journal names should be abbreviated as they appear in PubMed. Those not appearing in PubMed should be spelled out. Referenced articles that are cited as “In press” must include the title of the journal that has accepted the paper. List all authors when there are 6 or fewer; with 7 or more authors, list the first 3, followed by “et al.” To facilitate online retrieval of references, include a citation’s digital object identifier (DOI) if available. More information about DOIs can be obtained at www.crossref.org or dx.doi.org. When citing articles that have been published online prior to print, authors are encouraged to include the date published online (Epub date) in addition to the full print information. When the article has appeared in print, the URL will not be used; however, a DOI should be included if available. Examples of correct referencing style are given below.

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