

# ASK A PHARMACIST



(Humira), certolizumab pegol (Cimzia), golimumab (Simponi), and infliximab (Remicade). Some products are administered subcutaneously, and include etanercept, golimumab, adalimumab and certolizumab pegol. Infliximab is administered intravenously over at least 2 hours, and should be administered using an in-line 1.2 micron or smaller filter. As with any product, the prescribing information (package insert) has the most current information on product administration and should be consulted when making any decisions regarding drug administration.

## What are the benefits of probiotics? Does any particular kind offer more benefits than the others?

—Herman Kurzweil

The digestive tract hosts a variety of microorganisms necessary for health and proper digestion. The balance of microorganisms can be altered by administering antibiotics, increasing dietary intake of substances that promote the growth of beneficial bacteria (ie, prebiotics), or by administering the beneficial bacteria themselves (ie, probiotics). This is most frequently done in the course of treatment of gastrointestinal diseases such as inflammatory bowel disease or after experiencing diarrhea.

A variety of probiotics are available. These are most commonly derived from cultured milk products and may include *Lactobacillus* sp., nonpathogenic

strains of *Escherichia coli*, *Saccharomyces boulardii* (a strain of yeast), and others. Administration of probiotics is believed to suppress the growth and proliferation of pathogenic bacteria, improve GI function, and potentially modulate the immune system. Although generally considered safe, there are few trials demonstrating effectiveness of these products in comparison to placebo or to one another. Patients who wish to take these products should be aware that most are derived from dairy; therefore, patients who are lactose intolerant should select a product that contains minimal lactose. Patients who are critically ill, neutropenic, or otherwise immunosuppressed should be counseled that these products have been associated with infections in certain patient populations. For these populations, use of probiotics should be delayed until their immune function is restored.

## What are the potential problems associated with infusing paclitaxel (Taxol, generics) without an inline filter?

—Tracy Hill

Paclitaxel should be administered through an in-line 0.22-micron or smaller filter to prevent microbubbles, any microbacterial contaminants, and particulates from infusing into the patient. Infusion of these may result in phlebitis, emboli, or other serious adverse effects. ■

## Administering anti-TNFs; probiotics; and paclitaxel

### Do all tumor necrosis factor (TNF) medications for rheumatoid arthritis require 1.2 micron filter tubing?

—Dorcas Lavender, RN

There are currently five anti-TNF medications approved for use in the United States. Etanercept (Enbrel) is a recombinant protein that binds TNF and prevents it from activating cell receptors. The other products are monoclonal antibodies that bind to TNF-alpha, and include adalimumab



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