

Wyoming Drug Utilization Review

Probiotics

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Overview

Probiotic supplementation is widely used to increase the number of beneficial bacteria and/or yeast in the digestive tract. If the “good” bacteria start to decline, it leaves opportunity for “bad” bacteria to overgrow and causes illness. These probiotics help prevent an overgrowth of bad bacteria in the digestive tract. Maintaining a healthy digestive tract is important for many reasons, including nutrient absorption and immune health. A decrease in the

number of good bacteria is commonly caused by antibiotic use, as well as viral and bacterial illness. Probiotic supplementation can be beneficial in patients at risk for developing illness due to decreases in the amount of endogenous beneficial bacteria. Endogenous intestinal organisms consist of many different species, however the most common bacteria are of the genus *Lactobacillus* and *Bifidobacteria* and the yeast *Saccharomyces boulardii*. With so many different species of probiotics, and only a handful of them studied, it is challenging to draw conclusions about their effectiveness. Careful attention should be paid to the species used in a clinical trial, as this data is not necessarily applicable to other species, even in the same genus.

Sources of probiotics for supplementation are found in live culture yogurts (only live cultures are effective) or in packet and capsule formulations, including Culturelle, Florastor, VSL#3, Align, Floragen and Lactinex.

Stomach acid and digestive enzymes create an environment that renders some strains of probiotics less effective.¹

Place in Therapy

Probiotic use is currently being studied in many areas of human health. Recent studies include antibiotic induced diarrhea, ulcerative colitis, irritable bowel syndrome, traveler’s diarrhea, immune health (including allergic rhinitis), yeast infections and colon cancer. With so many different strains of probiotics, and only a handful proven to work, it is difficult to gauge what effect will come out of treatment. Overall there is little conclusive data showing beneficial effects of probiotics, and many health claims are unsubstantiated.⁴ Although there is contradicting evidence in many cases, the most promising studies have been in the prophylaxis and treatment of diarrhea. The mechanism of action for probiotics is not well studied, and only a few strains have been well documented, with the majority of focus on *Lactobacillus GG*.¹

Lactobacillus Rhamnosus GG

Benno et al showed that *Lactobacillus GG* increases immunoglobulin secreting cells in intestinal mucosa, and stimulated the local release of interferon.² *Lactobacillus GG* was also shown to produce a substance that inhibited the growth of *Escherichia coli*, *Clostridium difficile*, *Salmonella* and other potential pathogens.³ These potential mechanisms could contribute to effects *Lactobacillus* may have in regards to immune based effects as well as fighting off diarrhea causing pathogens.

Antibiotic Induced Diarrhea

Probiotics may decrease incidences of diarrhea significantly as prophylaxis of antibiotic induced diarrhea.⁵ The strains that have been found beneficial in studies are *Saccharomyces boulardii* and *Lactobacilli*.⁶ Patients should take these supplements, separated by 2 hours from antibiotics, throughout antibiotic treatment, and 3-7 days after.⁵

Infectious Viral Diarrhea

Meta-analysis have shown *Lactobacillus GG* to be effective when given early in infectious viral diarrhea

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P & T Committee Meeting Update

The P&T Committee met for its quarterly business meeting on November 17, 2011. Highlights of this meeting include:

The following program statistics were reported for the Medicaid Outpatient Pharmacy Program:

- PA/PDL Savings were \$5.1 million in State Fiscal Year (SFY) 2011 (July 1, 2010 – June 30, 2011) and have reached \$11.1 million total since 2009.
- Generic utilization is at 81%.
- In SFY 2011, Medicaid pharmacy expenditures were \$40.5 million pre-rebate with over 500,000 claims processed and 16,000 unique clients served. Between SFY 2010 and SFY 2011 expenditures decreased by 14%, net of rebates.
- Savings from the State Maximum Allowable Cost (SMAC) program are over \$3 million annually, totaling \$9.2 million since 2009.
- Mental Health remains a large portion of pharmacy expenditures, accounting for 35% of the total budget.

RSV Season Planning

James Bush, MD, State Medicaid Medical Officer

As Respiratory Syncytial Virus (RSV) season approaches, the Wyoming Department of Health (WDH) would like to remind providers to plan their Synagis administration with care and thought. The WDH will only approve five doses of therapy with Synagis per client per season. Therefore if the RSV season has not begun in your area of the state, you may want to consider delaying the start of administration of Synagis to avoid exceeding the Wyoming Medicaid dosing limits. If the medication is needed later in the season and the patient has already received their five doses of Synagis, there is no guarantee additional doses will be approved. Keep in mind that last year RSV was not detected in CO, WY, MT, SD and ND until December and cleared in April. Please be cognizant of what is occurring in your area.

If you have any questions about receiving prior authorization for Synagis, the criteria for approval or any other information regarding Wyoming Medicaid's coverage of Synagis through the Pharmacy Program, please contact the pharmacy claims vendor, Goold Health Systems, (GHS), at 1-877-207-1126. As always, I commend your efforts in providing our Medicaid patients with rapid, effective and appropriate care.

The following prior authorization was approved:

Arcapta will be approved for patients over the age of 40 with a COPD diagnosis.

Approval of Gralise will require a 60-day trial and documented response to immediate release gabapentin with a credible reason for need of the once daily formulation. The dose will be limited to 1800 mg per day.

Approval of Cialis will require a 90-day trial and failure of all other medications for BPH.

Elidel and Protopic will be approved following a 21-day trial and failure of both a medium and high potency preferred topical corticosteroid.

Letairis and Tracleer will require a diagnosis of pulmonary hypertension with documented right-heart catheterization validating the diagnosis.

A manual PA will be required for the following drugs and requests will be reviewed on a case-by-case basis:

- Firazyr (Proof of patient education/training on the medication and disease will be required as well).
- Incivek
- Non-preferred phosphate binders
- Tracleer

All proposed prior authorization criteria will be posted for public comment at www.uwyo.edu/DUR. Comments may be sent by email to alewis13@uwyo.edu or by mail to: Wyoming Drug Utilization Review Board, Dept. 3375, 1000 E. University Avenue, Laramie, WY 82071. Comments should be received prior to December 31, 2011.

The next P&T Committee meeting will be held February 16, 2012 in Cheyenne. An agenda will be posted approximately two weeks prior to the meeting.

Happy
Holidays

Probiotics, continued

at doses of 10-billion colony forming units (CFU).⁷⁻¹⁰ A Cochrane review found that probiotics reduced the risk of acute infectious diarrhea at 3 days and decreased mean time of diarrhea by 30.5 hours. In the same review, rotaviral diarrhea in pediatric populations was found to be susceptible to *Lactobacillus GG* treatment.¹⁰

Other Disease States

Probiotics have been evaluated in a myriad of other disease states. Probiotic supplementation, specifically VSL#3, was associated with a reduced risk of pouchitis.¹¹ There is contradicting evidence in the treatment of traveler's diarrhea.¹¹ In preventing or treating vaginal yeast infections (both recurrent and antibiotic induced), little data has been found to show efficacy.^{5,11} In patients with Crohn's disease, insufficient evidence has been collected at this point to support efficacy.¹¹ In treatment of irritable bowel syndrome, *Lactobacillus* alone do not seem to be effective, while *Bifidobacteria* and certain combinations of probiotics may be more effective.¹¹ Probiotics may provide some benefit when added to standard therapy to help induce remission of ulcerative colitis.¹¹

Contraindications, Cautions and Adverse Effects

Probiotic supplementation has been associated with stomach and intestinal upset, including gas and bloating.¹² Patients that are immunocompromised or with mechanical heart valves are at risk for bacteremia from probiotics. Probiotics are not recommended for children under 3 years unless prescribed by a health care provider.¹²

Significant Drug Interactions

The calcium found in yogurt can decrease the effectiveness of some antibiotics. Patients will need to eat approximately 8 oz twice daily to see benefit from probiotics found in yogurt.⁵ Antibiotics may need to be taken two hours or more apart from probiotics, depending on the antibiotic.^{1,2} Broad spectrum antibiotic therapy may decrease the amount of active bacteria in the supplement before it has a chance to fully act in the digestive tract. Probiotics containing *Saccharomyces boulardii* may encounter the same issue when taking anti-fungals, as anti-fungal medication may decrease effectiveness.

Conclusion

Probiotic supplementation has been studied in a myriad of disease states, many with contradicting evidence. Studies have shown promising evidence for efficacy in antibiotic induced diarrhea, infectious viral diarrhea and

pouchitis. Care should be taken in selecting high quality and cell count supplements as well as patient counseling to ensure maximum efficacy.

References

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Samples and Step Therapy Policies

Please note: Starting a patient on brand-name drug samples will not allow the patient to bypass step therapy policies. Please be sure to check prior authorization criteria on the Wyoming Medicaid website at <http://www.wyequalitycare.org/> prior to beginning therapy.

2012 P & T Committee Meeting Dates

February 16
May 17
August 30
November 15

9 am - 3 pm
Laramie County Community College
CCI 130
Cheyenne, WY

All meeting dates and times are subject to change.

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December
2011

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