Let’s Hear It For American Ingenuity

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I continue to marvel at the technological sophistication and advancement evident in the design and manufacturing of absorbent products for incontinence. I recently visited the headquarters of Medline Industries, Inc. (Mundelein, IL), the largest, privately held manufacturer and distributor of healthcare products in the US, serving the entire continuum of care with more than 350,000 products. One of the company’s newest items addresses adult incontinence: the FitRight® Restore Brief®. The design incorporates several noteworthy features. First, the construction of the core functions to distribute fluid wicked away from the skin to prevent uncomfortable lumps of superabsorbent polymers. Second, the product has an imbedded moisture alert, or wetness indicator, that changes color when the garment has been soiled to promote timely changes and avoid wasteful, embarrassing inspections. Most uniquely, integral to the product is a proprietary skin nourishment for the perineum (Olivamine™), which also contributes to the especially soft, inner panel in direct contact with the skin.

Olivamine® was developed by Darlene McCord, a PhD in corneotherapy and immunodermatology working at McCord Research, a privately held research company she owns with her husband in Iowa. In addition to collaborative research with the University of Iowa, Dr. McCord has more than 30 skin health products being sold globally. Her corporate clients include Hollister (Libertyville, IL), 3M (St. Paul, MN), and Medline. Olivamine’s formula comprises vitamin B3, vitamin B6 (pyridoxine) is an essential cofactor in numerous enzymatic reactions involved primarily in amino acid metabolism and functions as an antioxidant; vitamin B12 (niacinamide) is a precursor of the coenzyme used to generate adenosine-5'-triphosphate (ATP) in the mitochondrial electron transport chain, is involved in DNA integrity, and is believed to help prevent cellular inflammation. Additionally, the formula features four amino acids: glycine, which has both protective and restorative properties in cell metabolism; L-taurine, which scavenges oxygen free radicals; N-acetyl-L-cysteine, which is believed to have antioxidant properties and is theorized to aid in the regulation of cell protein levels; and L-proline, the only amino acid found in the stimulation of DNA synthesis and an essential element in epidermal growth specifically. Among the carriers is the water and lipid-soluble molecule hydroxytyrosol, an aromatic organic compound of olives that is an efficient scavenger of free radicals. The product also contains methylsulfonylmethane (MSM), a naturally occurring organic compound containing 34% elemental sulfur. MSM has 10 times the antioxidant capacity of fresh strawberries, the fruit with the highest oxygen radical absorbent capacity. To formulate the brief’s additive, Olivamine is blended with other oils and vitamins, as well as aloe vera leaf juice, for a skin nourishing, silicone-based emollient commercialized as Medline Remedy®. The nongreasy formula is injected into the core of the brief.

A 137-bed, Medicare- and Medicaid-certified skilled nursing facility in New Jersey owned by Meridian Nursing and Rehabilitation conducted a retrospective cohort study between 2003 and 2007 using a pre-post implementation decision model to determine the expected value of using a Remedy skin care regimen in combination with Restore disposable briefs for its resident population at-risk for pressure ulcers and incontinence-associated dermatitis (IAD). The study was conducted by the Director of Nursing together with an independent health economist employed by Global Health Economic Projects, LLC. Savings are estimated at an average of $861.00 per resident at risk for pressure ulcers over their length of residence in the nursing home. This considers all at-risk residents regardless of whether they acquire a pressure ulcer. Savings are produced from reduction in nosocomial pressure ulcers and IAD treatment, as well as from reduced labor, medications, medical products, and such used in their resolution. Because the pressure ulcer incidence rate already had been reduced from 17% to virtually zero through intensive servicing staff education, it was difficult to establish the correlation of the disposable absorbent product with pressure ulcer reduction. However, IAD was lowered during the post-implementation period by 30%.

So many of the advances in adult absorbent products essentially represent adaptive technology taken from innovations in the baby diaper sector. For example, Procter & Gamble enjoys five-star ratings by the majority of parents using its Pampers® Swaddlers Sensitive, said to be “clinically proven mild” and hypoallergenic with its aloe additive imbedded in its inner core construction. Users commenting online on P&G’s website describe the diaper as softer, quilted, and “non-plastic like.” The Medline adult brief may be borrowing a concept from this famous...
consumer marketer, but it has clearly innovated a step further with the integration of Olivamine’s scientifically and clinically proven benefits. Not surprisingly, Medline has ascended to the position of market leader in adult, disposable incontinence management products. An innovator with more 160 patents, the company opened a state-of-the-art adult brief manufacturing facility near Atlanta.

I urge all readers to pay attention to such advances made by the vendors serving you. They symbolize the investment and commitment of companies to bring products for optimal, clinical solutions to your most challenging patients. We salute such American ingenuity and innovative spirit.

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References