

## **Patient Handout**

- \$160 billion spent on beauty globally each year
- Strong connection between lifestyle factors and appearance, including diet
- It is well-established that nutrient deficiencies can lead to skin and hair changes.

### **Skin**

- Skin is the largest organ and will outwardly show any nutrient deficiencies

### **Acne**

- Most common skin condition
- Caused by a complex interaction between bacteria, sex hormones, and inflammation
- Possibly successful dietary interventions: low-glycemic diet, limiting dairy products
- Chocolate does not increase the occurrence of acne.
- Increased interest in using probiotics for the treatment of acne
- Anti-inflammatory herbs also have been used to help reduce acne, specifically those that contain berberine or turmeric.
- Omega-3 fatty acids, although they are anti-inflammatory, have shown mixed results in the reduction of acne.

### **Skin Dryness**

- Skin dryness is related to the quantity of fatty acids in skin cells to help hold in water, specifically the polyunsaturated fats
- Gamma-linolenic acid (GLA) and omega-3s have been most studied with regard to skin moisture.
- EPA specifically was found to help reduce itching and scaling.
- The results are mixed with GLA; ideal dosages need to be determined.

### **Aging**

- Biological attractiveness is based on the youthful appearance of skin.
- Foods that were found to be protective against sun damage and wrinkling: vegetables, legumes, olive oil, fish; foods that increased wrinkling: butter, margarine, dairy, meat, refined carbohydrates, and sugar
- Vitamin C and linoleic acid are protective against wrinkling and age-induced skin dryness.
- Vitamins C and E, when taken together, seem to have a synergistic effect on protecting the skin against sun damage, but safe dosages need to be determined.
- Collagen and turmeric supplements may help maintain skin collagen deposition and improve skin elasticity.

### **Hair and Nails**

- Hair loss is common in both men and women.
- Hair and nails are both made from keratin.
- Hair loss or brittle nails can be caused by multiple underlying medical conditions or nutrient deficiencies, which must be ruled out first.
- Iron deficiency is the most common cause of hair loss in women.
- Vitamin D status may be connected to hair loss in women.
- Biotin supplementation can help strengthen nails.