- filaments with serifs of trademark the «Aptos» (Georgia) – used to lifting facial contours. Their structural feature is that they have special serifs that allow the material to be better retained in the tissues. Aptos filaments are divided into several types – «hammocks», springs, biodegradable filaments. Each of them performs its function in different parts of the face. Absorbable suture material is made on the basis of polylactic acid or polypropylene.
- cone-shaped combination filaments contain nodules and cones, through this, they are fixed in the desired tissue site. This type of suture material gradually dissolves, and instead are formed capsules of connective tissue. Capsules provide a tightening effect. This method has a disadvantage – a long rehabilitation period, accompanied by swelling and limited facial expressions.
- meso filaments are a thin and absorbable suture material. Their introduction is not very traumatic, since they use a special needle that does not pierce, but spreads the tissue without damaging them. Consist primarily of hyaluronic acid. Usually they are used for less pronounced age-related changes. This suture material absorbable for 6 months. During this time, they are coated with collagen fibers. Regeneration processes are improving, collagen, elastin production, firmness and elasticity increase, complexion improves.
- collagen-stimulating filaments are biocompatible and bioabsorbable materials made on the basis of polydioxanone, which provide stimulation of collagen synthesis in the skin.

Conclusions. Today, carrying out a thread face-lift in cosmetology is a very popular procedure. A positive result of this procedure will depend not only on the experience of the cosmetologist, but also on correctly selected and high-quality suture material.

RESEARCH OF ORTHOPEDIC INSOLES CHOICE DEPENDING ON MATERIAL AND INDICATORS

Marchenko D. O., Diadiun T. V.
Scientific supervisor: prof. Baranova I. I.
National University of Pharmacy, Kharkiv, Ukraine
trunovacommodity@gmail.com

Introduction. The foot is a support for the whole body, therefore, the violation of this foundation inevitably affects the formation of the body. Changing the shape of the foot not only causes a decrease in its functionality, but also, most importantly, changes the position of the spine. This adversely affects the body's posture and general condition. Shoe insert is an orthopaedic product designed to support the arch of the foot and correct its biomechanical disorders.

Aim. Investigate materials for creating an orthopaedic foam insole and indicators to look for when choosing this product.

Main material of the study. When choosing orthopaedic insoles, the following indicators should be considered: material, size, appearance. More often the classification is based on the type of orthopaedic foot support: a) rigid; b) semi-rigid; c) mild; d) lack of support for the arch of the foot. The method of placement. The height of the arch of the foot: a) foot with a normal height; b) foot with low arch height; c) foot with a high arch height. A healing insole should provide cushioning and correcting effects.

Let`s consider one of the main indicators when choosing insoles – the material from which they are made. Orthopaedic genuine leather insoles are used for the treatment of all types of flat feet and prevention of statistical deformities of the foot. Aeroprene is an advanced neoprene material and has all its properties: elasticity, softness, wear resistance, water resistance and thermal insulation characteristics. An exception is that the aeroprene allows the access and circulation of air through the perforation of the neoprene cloth. Foamed polyethylene takes the shape of the foot under the pressure of the patient's weight on a pre-heated billet of foam placed on a hydraulic platform. However, there is a number of disadvantages to this method: the difference between the relief of the sole with the actual footprint of the foot in the shoe. This disadvantage is explained by the fact that on the hydraulic platform, the bones of the foot diverge to the sides under the weight of the body, due to the effect of the expansion of the heated mass of foam, while in the shoe this effect is absent.

Conclusions. Special orthopaedic insoles are used in the treatment of flat feet. They help the foot hold a physiologically correct position and unload it, forcing it to take the correct position.

POLYMERS USED IN PHARMACEUTICALS PACKAGING

Mostafa Alaaheddin Abdulkader Hassan Saleh
Scientific supervisors: prof. Baranova I.I., assoc. prof. Yudina Yu.V.
National University of Pharmacy, Kharkiv, Ukraine
Eco3557@gmail.com

Introduction. Synthetic and natural-based polymers have found their way into the pharmaceutical and biomedical industries and their applications are growing at a fast pace. Understanding the role of polymers as ingredients in drug products is important for a pharmacist or pharmaceutical scientist who deals with drug products on a routine basis.

Aim. This thesis will provide the basis for understanding pharmaceutical polymers, polymer properties, types of polymers, polymers in pharmaceutical industries.

Materials and methods. Depending on their applications, polymers may be classified as rubbers, plastics, fibers, adhesives, and coatings. Each application requires a polymer to possess certain properties.

Results and discussion. Rubbers have unique elongation properties, they can be stretched without failure, and they can be loaded with static and dynamic loads under very severe conditions. Different rubbers offer different properties. Those with double bonds (e.g., isoprene, butadiene) offer resiliency but are very susceptible to oxidation and ozonation. Those without double bonds (e.g., ethylene–propylene rubber) are very durable against weathering conditions. Some are very resistant to oil (e.g., chloroprene and nitrile) and some have excellent impermeability (e.g., isobutylene–isoprene rubber). Silicone is a very inert rubber with almost no affinity to any material. Therefore, silicone rubber is an excellent candidate for very durable parts such as implants in biomedical applications. Rubbers in general are not very strong in their raw form but they have a potential to be cross-linked and cured. Rubber is loaded with certain chemicals (curing agents) and is cured or cross-linked at high pressure and temperature.

Plastics on the other hand possess completely different properties. Plastic parts are manufactured by techniques such as injection molding, extrusion, and thermoforming that require the plastic to be in its molten state. Plastics that are used in general applications such as packaging are generally cheap and are structurally weak. Polymers such as polyethylene, polypropylene, and polystyrene have only carbon in their backbone. The other groups of plastics which are used in engineering applications are required to be impact resistant, weather resistant, solvent resistant, and so on and so forth. These are generally heterogeneous plastics, which have elements other than carbon such as N, Si, and O in their backbone. Polyesters, polyamides, and polyacetals are engineering plastics with very high intermolecular forces and hence high melting point.

Polymers for fibrous products are required to have a crystalline structure with a very sharp melting point. For this application, polymers need to be meltable and spinnable.

Examples of fiber-forming materials are cellulose acetate, rayon, polypropylene, nylon, polyester, polyamide, and polyacrylonitrile.

The required properties of polymers for adhesive and coating applications are tackiness and adhesiveness. Structurally speaking, the cohesive forces within a polymer can be modulated by changing its molecular weight, crystallinity, or addition of a second material such as plasticizers or oils. The adhesive