

Claims

1. A punctal plug for the delivery of active agent to the tear fluid of an eye and to a nasolacrimal duct, comprising: a body comprised of a flexible polymeric material that conforms to the shape of a lacrimal canaliculus when the punctal plug is inserted into the lacrimal canaliculus; a reservoir contained within the body, wherein the reservoir comprises at least one opening and contains an active agent-containing material that comprises at least one active agent, and the body is impermeable to the active agent; and a collarette that rests on the exterior of the lacrimal punctum when the punctal plug is inserted into the lacrimal canaliculus.
2. The punctal plug of claim 1, wherein the active agent-containing material is at least partially water-soluble, dissolves over time, and releases the active agent through an opening in the reservoir as it dissolves.
3. The punctal plug of claim 2, wherein the reservoir is refilled with a active agent-containing material comprising at least one active agent that is the same as or different from the previous active agent after substantially all of the previous active agent-containing material has dissolved.
4. The punctal plug of claim 8, wherein the active agent-containing material is biodegradable, degrades over time, and releases the active agent through an opening in the reservoir as it degrades.
5. The punctal plug of claim 2, wherein the reservoir is refilled with an active agent-containing material comprising at least one active agent that is the same as or different from the previous active agent after substantially all of the previous material has degraded.
6. The punctal plug of claim 1, wherein the active agent-containing material is insoluble in water and non-biodegradable and the active agent passively diffuses from the material through an opening in the reservoir.
7. The punctal plug of claim 1, wherein the reservoir and the body are coterminous.
8. The punctal plug of claim 1, wherein when the punctal plug is inserted into the lacrimal canaliculus an opening in the reservoir faces the eye and the active agent is released into the tear fluid of the eye.

9. The punctal plug of claim 1, wherein when the punctal plug is inserted into the lacrimal canaliculus an opening in the reservoir faces the nasolacrimal duct and the active agent is released into the nasolacrimal duct.

10. The punctal plug of claim 1, wherein when the punctal plug is inserted into the lacrimal canaliculus an opening in the reservoir faces the eye and the active agent is released into the tear fluid of the eye and another opening in the reservoir faces the nasolacrimal duct and the active agent is also released into the nasolacrimal duct.

Claims

1. A punctal plug for the delivery of active agent to the tear fluid of an eye and to a nasolacrimal duct, comprising: a body comprised of a flexible polymeric material that conforms to the shape of a lacrimal canaliculus when the punctal plug is inserted into the lacrimal canaliculus; a reservoir contained within the body, wherein the reservoir comprises at least one opening and contains an active agent-containing material that comprises at least one active agent, and the body is impermeable to the active agent; and a collarette that rests on the exterior of the lacrimal punctum when the punctal plug is inserted into the lacrimal canaliculus wherein the active agent-containing material is biodegradable, degrades over time, and releases the active agent through an opening in the reservoir as it degrades.
2. The punctal plug of claim 1, wherein the active agent-containing material is at least partially water-soluble, dissolves over time, and releases the active agent through an opening in the reservoir as it dissolves.
3. The punctal plug of claim 2, wherein the reservoir is refilled with a active agent-containing material comprising at least one active agent that is the same as or different from the previous active agent after substantially all of the previous active agent-containing material has dissolved.
4. The punctal plug of claim 2, wherein the reservoir is refilled with an active agent-containing material comprising at least one active agent that is the same as or different from the previous active agent after substantially all of the previous material has degraded.
5. The punctal plug of claim 1, wherein the active agent-containing material is insoluble in water and non-biodegradable and the active agent passively diffuses from the material through an opening in the reservoir.
6. The punctal plug of claim 1, wherein the reservoir and the body are coterminous.
7. The punctal plug of claim 1, wherein when the punctal plug is inserted into the lacrimal canaliculus an opening in the reservoir faces the eye and the active agent is released into the tear fluid of the eye.

8. The punctal plug of claim 1, wherein when the punctal plug is inserted into the lacrimal canaliculus an opening in the reservoir faces the nasolacrimal duct and the active agent is released into the nasolacrimal duct.

9. The punctal plug of claim 1, wherein when the punctal plug is inserted into the lacrimal canaliculus an opening in the reservoir faces the eye and the active agent is released into the tear fluid of the eye and another opening in the reservoir faces the nasolacrimal duct and the active agent is also released into the nasolacrimal duct.