Japan Ophthalmic Devices Market Outlook to 2018 - Vision Care, Intraocular Lens (IOL), Cataract Surgery Devices, Ophthalmic Diagnostic Equipment, Refractive Surgery Devices, Vitreo Retinal Surgery Devices and Others

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2 Introduction

GlobalData's medical equipment market reports are the ideal guide for anyone wishing to understand the market better in terms of revenue, unit sales, distribution shares and company shares.

2.1 What is This Report About?

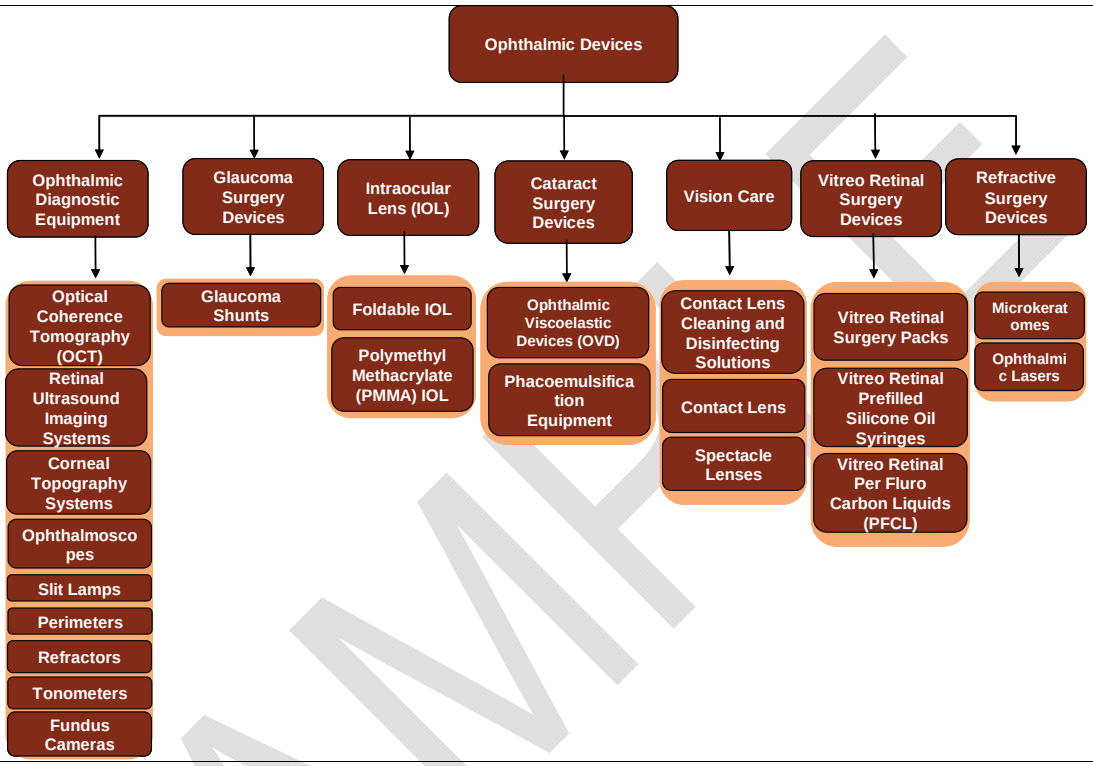
Japan ophthalmic devices market report provides the following information:

1. Comprehensive data related to the market revenue, unit sales, average price, distribution shares and company shares.
2. Global corporate-level profiles of key companies operating in the ophthalmic devices market in Japan, which includes a brief overview of the company. The selection of the companies is based on their operational presence in Japan. It includes key multinationals as well as key local players.
3. A list of key products under development by different companies. The selection of this list is based on the territory in which these products are being clinically investigated.

3 Ophthalmic Devices In Japan

3.1 Ophthalmic Devices, Market Segmentation

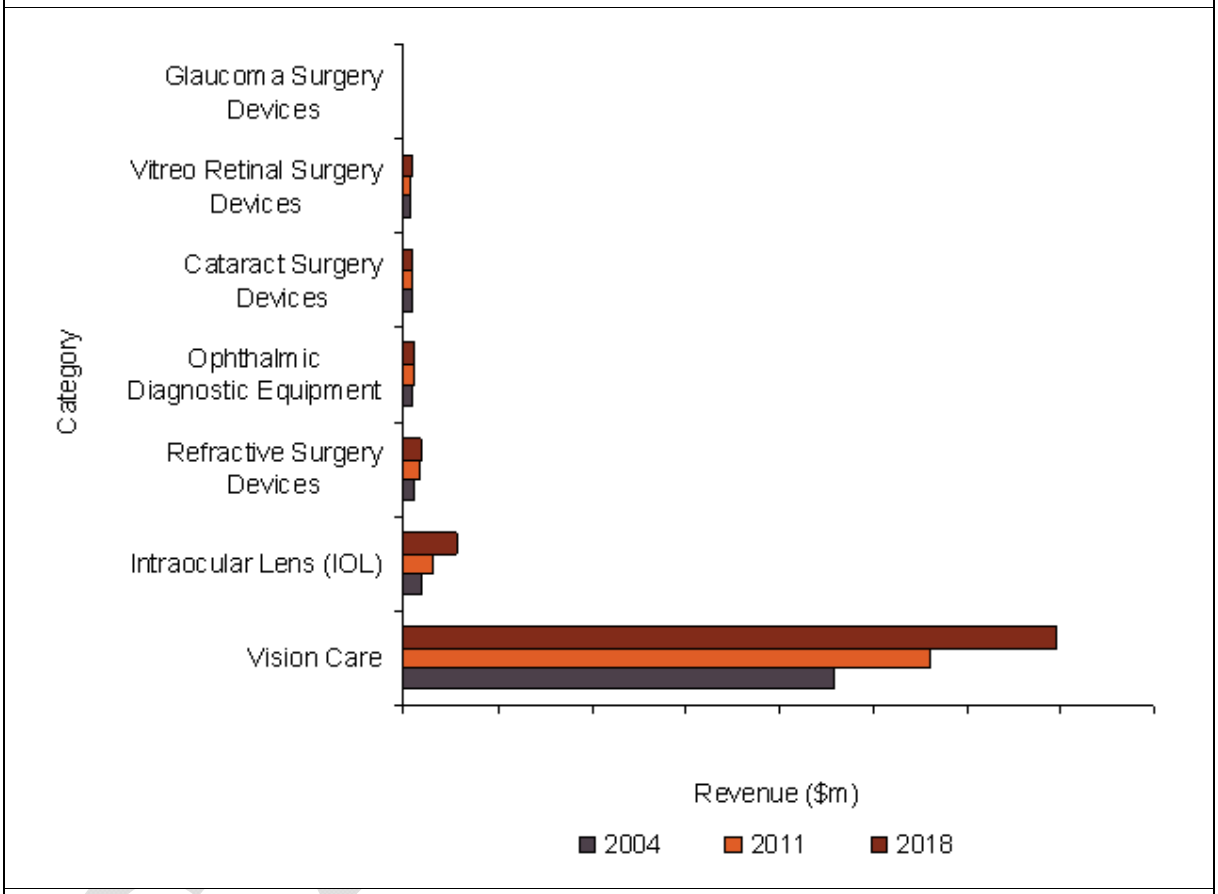
Figure 1: Ophthalmic Devices, Market Segmentation



Source: GlobalData

3.2 Ophthalmic Devices, Japan, Overall Revenue ($m), USD Constant, 2004-2018

Figure 2: Ophthalmic Devices, Japan, Overall Revenue ($m), USD Constant, 2004-2018



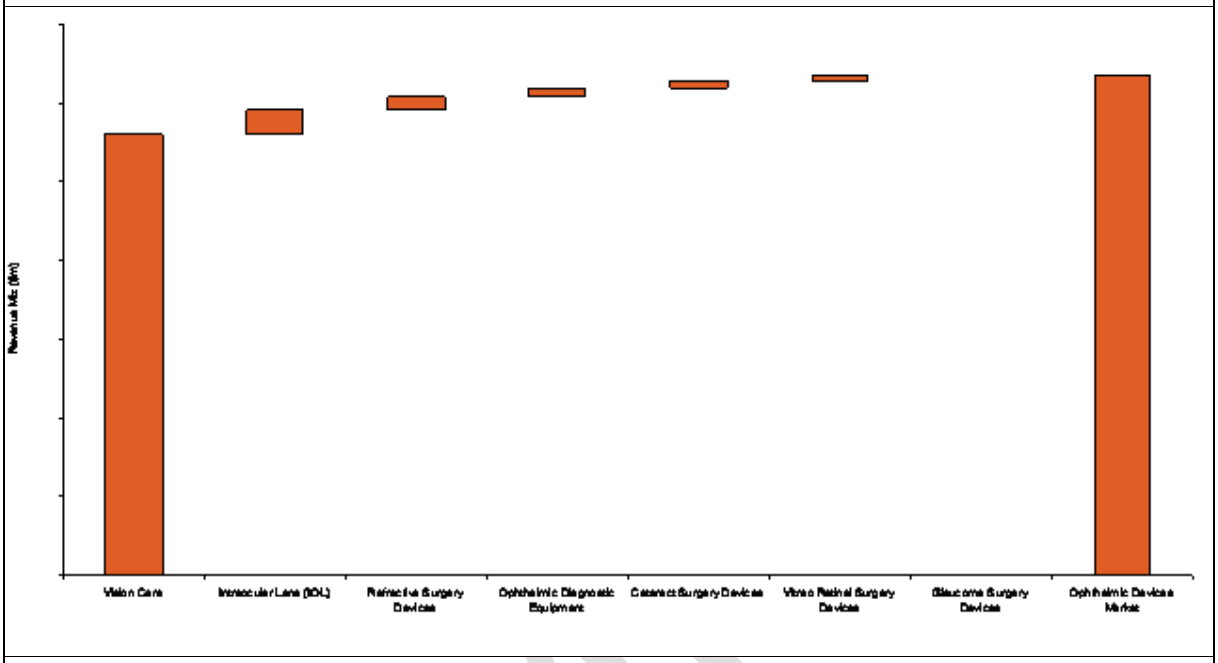
Source: GlobalData

Table 1: Ophthalmic Devices, Japan, Overall Revenue ($m), USD Constant, 2004-2018						
Category	2004	2011	2018	CAGR 04-11	CAGR 11-18	CAGR 04-18

Source: GlobalData

3.3 Ophthalmic Devices Market, Japan, Revenue Mix ($m), 2011

Figure 3: Ophthalmic Devices Market, Japan, Revenue Mix ($m), 2011



Source: GlobalData

15 Appendix

The data and analysis within this report is driven by Medical eTrack

Medical eTrack gives you the key information to drive sales, investment and deal making activity in your business. It includes the following information:

- 15,000+ Market size data tables across 740 medical equipment segments and 39 countries with historic data from 2004 forecast to 2018
- 6,000+ Primary expert interviews conducted per annum for ensuring data and report quality
- 1,100+ Conferences on medical equipment covered
- 1,000+ Industry leading reports per annum covering growing sectors, market trends, investment opportunities and competitive landscape
- 600+ Analysis reports covering market and pipeline product analysis reports by indication, medical equipment trends and issue reports and investment and M&A trend reports worth over $3 Million
- 43,000+ Medical equipment companies profiled
- 1,500+ Private, emerging and technology start-up company profiles
- 1,500+ Medical equipment manufacturers in China and India
- 1,500+ Medical equipment companies in Japan
- 700+ Companies with revenue splits and market shares by category
- 1,500+ Quarterly and annual medical equipment company financials
- 700+ Medical equipment company SWOT's
- 9,000+ Pipeline product profiles
- 8,000+ Marketed product profiles
- 14,000+ Clinical trials
- 15,000+ Trial investigators
- 13,000+ New product patents
- 3,300+ Companies with products in development
- 17,000+ Deals in the medical equipment industry
- 1,100+ Surgical and diagnostic procedures by therapy area
- 40+ Key healthcare indicators by country
    - For more information or to receive a free demo of the service visit

http://www.medicaletrack.com/contactus.aspx?RD=Demo=

15.1 Definitions of Markets Covered in the Report

15.1.1 Ophthalmic Devices

Ophthalmic devices are those devices which are used for vision correction or in ophthalmic diagnostic procedures. Categories covered under ophthalmic devices are cataract surgery devices, refractive surgery devices, ophthalmic diagnostic equipments, glaucoma surgery devices, Intraocular Lens (IOL), vitreo retinal surgical devices and vision care products.

15.1.1.1 Cataract Surgery Devices

Cataract surgery is the removal of the natural lens of the eye that has developed an opacification and is then replacing it with an artificial intraocular lens to restore transparency. The most common procedure is called extra capsular cataract extraction (ECCE). This category includes ophthalmic viscoelastic devices and phacoemulsification equipments.

Ophthalmic Viscoelastic Device (OVD)

Ophthalmic viscoelastic devices are essential tools in ocular surgery, especially in anterior segment surgery. These are the viscoelastic materials used to maintain space in the eye during surgery. Typically, OVDs are pre-packaged in a syringe and are applied using a small tube. Essential properties of OVDs are tied to their physicochemical and rheological properties. Different types of OVDs available in the market include higher viscosity cohesive OVDs and lower viscosity dispersive OVDs. This segment does not include OVDs with both cohesive and dispersive viscoelastic properties.

Cohesive OVD

Cohesive OVDs are high viscosity materials which help maintain and preserve space during eye surgery as well as displace and stabilize tissues. One unit refers to one tube of 0.5ml cohesive OVD.

Dispersive OVD

Dispersive OVDs are low viscosity materials which tend to remain in the eye adjacent to the corneal endothelium, providing potential protection during phacoemulsification. One unit refers to one tube of 0.5ml dispersive OVD.

Phacoemulsification Equipment

Phacoemulsification equipment is a device designed for cataract surgery procedure in which an ultrasonic wave is transmitted through a tiny probe that has been inserted through an incision into the cloudy lens that constitutes the cataract to break up and then remove a cloudy lens, or cataract, from the eye to improve vision. In general, the insertion of an intraocular lens (IOL) immediately follows phacoemulsification. This includes only console of Phacoemulsification system, excluding accessories like tubing kit, peristaltic pump, aspiration tip, vitrector, irrigation sleeve, footpedal etc. One unit refers to one console of phacoemulsification equipment.

15.1.1.2 Glaucoma Surgery Devices

Glaucoma surgery devices are used to augment normal physiologic aqueous outflow pathways in order to provide effective intra-ocular pressure. This category includes glaucoma shunts

Glaucoma Shunts

Glaucoma Shunts or implants are small plastic devices that are surgically attached to the eye's surface, to improve or shunt the flow of aqueous drainage. Gold shunts are not included in this segment. One unit refers to one Glaucoma Shunt.

15.1.1.3 Intraocular Lens (IOL)

Intraocular lens is an artificial lens made of plastic, silicone, acrylic or other material that is implanted inside the eye during cataract surgery. IOLs included in this category are foldable (phakic) IOL and Polymethyl Methacrylate (PMMA) IOL.

Foldable IOL

Foldable IOLs include intraocular lens made up of hydrophilic acrylic and hydrophobic acrylic materials designed for small incision cataract surgeries. According to the type of eye defect foldable IOL's are further classified to three different sub segments

Monofocal Foldable IOL

Monofocal Foldable IOL are the intraocular lens with one point of focus, either for the distance vision Myopia (nearsightedness) OR for near vision Hyperopia (farsightedness). One unit refers to one Monofocal Foldable IOL.

Multifocal Foldable IOL

Multifocal Foldable IOL are the intraocular lens with one or more point of focus, both for the distance vision Myopia (nearsightedness) and for near vision Hyperopia (farsightedness). One unit refers to Multifocal Foldable IOL.

Toric Foldable IOL

Toric Foldable IOL is used to treat the Astigmatism eye defect. This defect is when the light rays do not all come to a single focal point on the retina, instead some focus on the retina and some focus in front of or behind it. One unit refers to one Toric Foldable Intraocular lens.

Poly Methyl Metha Acrylate (PMMA) IOL

PMMA lens are the traditional IOLs consisting of the Polymethyl Methacrylate (PMMA) IOL. They remain a preferred choice for people with a history of uveitis, have diabetic retinopathy requiring vitrectomy or are at high risk of retinal detachment. One unit refers to one polymethyl methacrylate (PMMA) IOL.

15.1.1.4 Ophthalmic Diagnostic Equipment

This category includes equipments used in the examination of the eye which allows study or treatment of different pathologies of the eye. Topography systems, fundus cameras, ophthalmoscopes, ultrasound imaging systems and other accessories are included in this category.

Corneal Topography Systems

Corneal topography system is used for mapping the surface curvature of the cornea, for the diagnosis and treatment of various conditions like keratoconus, in planning refractive surgery such as LASIK and evaluation of its results and in assessing the fit of contact lenses. The system includes the imaging systems and image acquisition software. One unit refers to one corneal topography system.

Fundus Cameras

Fundus camera or retinal camera is a specialized low power microscope with an attached camera designed to photograph the interior surface of the eye, including the retina, optic disc, macula and the fundus. One unit refers to one fundus camera.

Ophthalmoscopes

Ophthalmoscope is a lighted instrument used to examine interior of the eye. These are used to assess the health conditions of the retina and the vitreous humor. Ophthalmoscopes include direct and indirect ophthalmoscopes

Direct Ophthalmoscopes

A direct ophthalmoscope uses an instrument with several lenses that can magnify up to 15 times. This type of ophthalmoscope is most commonly used during a routine physical examination. One unit refers to one direct ophthalmoscope.

Indirect Ophthalmoscopes

An indirect ophthalmoscope constitutes a light attached to a headband and a small handheld lens. It allows a better view of the fundus of the eye, even if the lens is clouded by cataracts and can be either monocular or binocular. One unit refers to one indirect ophthalmoscope.

Optical Coherence Tomography (OCT)

Optical Coherence Tomography (OCT) equipment allows for the imaging and measurement of retinal thickness. OCT detects retinal swelling, fluid accumulation and number of retinal conditions like diabetic retinopathy, macular holes, epiretinal membranes, cystoid macular edema, central serous choroidopathy and optic disc pits. One unit refers to one optical coherence tomography (OCT) system.

Perimeter

Perimeter is an instrument for measuring the angular extent and the characteristics (e.g. presence of scotoma) of the visual field of an eye. One unit refers to one perimeter.

Refractors

Refractors are compact devices that provide spherical correction of the subject's refractive error without change of magnification of the subject's eye. Refractor allows the examiner to monitor ocular alignment and fixation stability during multifocal electrophysiological testing. One unit refers to one refractor.

Retinal Ultrasound Imaging

Retinal ultrasound imaging equipment uses sound waves to assess ocular and retinal conditions where opacity blocks the normal retinal view. Ultrasound is commonly used to assess the retina in patients with a dense cataract or vitreous haemorrhage. All systems covered in this segment include a probe, transducer & a monitor.

A - Scan

A Scan measures the axial length of ocular constituents for physiologic studies of accommodation and for selection of proper intraocular lens (IOL) implants after cataract surgery. A small transducer device is placed in the eye which transmits sound waves to a computer that produces images of the structures inside the eye. One unit refers to one A - scan.

A/B Scan

A/B Scan measures both the axial length of the eye as well as works as a B scan. It is advancement in the field of ultrasound imaging extending the benefits of A Scan and B Scan in a single device. One unit refers to one A/B scan.

B - Scan

B-Scan measures the configuration and thicknesses of the cornea and its epithelium with precision which is necessary for corneal resculpting (including laser procedures such LASIK) to enhance and restore visual acuity. It is also used for evaluation of the eye and orbit following traumatic injuries, especially when foreign bodies are involved and for ocular and orbital tumors. One unit refers to one B - scan.

Slit Lamps

Slit lamp is an instrument with a high-intensity adjustable light source that can be focused to examine the eye. This system is used in conjunction with a bimicroscope, it facilitates in examining the anterior segment and posterior segment of the eye, which include the eyelid, sclera, conjunctiva, iris, natural crystalline lens and cornea. One unit refers to one slit lamp.

Tonometers

Tonometers measure the intraocular pressure (IOP) for the treatment and diagnosis of glaucoma. Tonometer measures the IOP by recording the resistance of cornea to pressure. Handheld tonometers are not included in this segment. One unit refers to one tonometer.

15.1.1.5 Refractive Surgery Devices

Refractive surgery is a surgery that changes the shape of the cornea or the way the eye focuses light internally. The Refractive surgery devices are used to sculpt the central zone of the cornea to correct nearsightedness, farsightedness or astigmatism. Microkeratomes and Ophthalmic Lasers are covered under this category.

Microkeratome

Microkeratome is a high precision surgical instrument designed for creating the corneal flap in the first stage of LASIK or ALK surgery. It helps creating a 100 to 200 micrometer thick flap in the LASIK procedure with the help of an oscillating blade. The device includes microkeratome blades, blade housing assembly. One unit refers to one microkeratome.

Ophthalmic Lasers

Ophthalmic laser devices create a uniform and coherent light which can be continuous or pulsed in treating a wide spectrum of diseases involving both the anterior and posterior segments of the eye for correcting refractive disorders. Different types of ophthalmic lasers covered are excimer lasers, YAG lasers and femtosecond lasers.

Excimer Laser

It is a laser that emits concentrated ultraviolet light to vaporize part of the surface layer of the cornea (Photoablation) and reshape the cornea to correct refractive errors. Excimer lasers are usually operated with a pulse rate of around 100 Hz and pulse duration of ~10 ns. Excimer lasers are used for photorefractive surgery to correct vision (myopia,hyperopia,astigmatism) and glaucoma treatment. One unit refers to one excimer laser.

Femtosecond Laser

A femtosecond laser helps to cut tissues with practically no heat development. It works by emitting an ultra short laser pulse which causes photo disruption by creating a mini-gas bubble. It is used in ophthalmic surgery primarily for cuts in the interior of the cornea like, for flap preparation prior to LASIK or for preparation of corneal tunnels for intra corneal ring segment (ICRS) implantation. It works at a wavelength of 1,052 nm. It enables surgeons to create thin LASIK flaps or remove intrastromal tissue rather than perform excimer laser ablation. One unit refers to one femtosecond laser.

YAG Laser

The Nd (neodymium): Yttrium-Aluminum-Garnet (YAG) laser is a laser whose active medium is a crystal of yttrium, aluminum and garnet doped with neodymium ions and whose beam is in the near infrared spectrum at 1060 nm; used for photocoagulation and photo ablation, mostly in posterior capsulotomy procedures, or secondary cataracts which are found in 35% of extra capsular cataract extraction patients. YAG laser includes head belt, arm rest, key switch, slit lamp bulb, chin rest pads. One unit refers to one YAG laser.

15.1.1.6 Vision Care

Vision care market covers therapeutic accessories in ophthalmology to enhance patient's vision outcome. These include contact lenses, spectacles lenses and contact lens cleaning and disinfecting solutions.

Contact Lens Cleaning and Disinfecting Solutions

Contact lens cleaning and disinfecting solutions are used to clean and disinfect contact lenses after each use to remove the build-up of debris and protein. Multipurpose solutions and one step peroxide solutions are covered under this segment.

Multipurpose Contact Lens Cleaning and Disinfecting Solutions

Multipurpose contact lens cleaning and disinfecting solutions are used for daily conditioning, cleaning, rinsing, disinfecting and storing of contact lenses. Other lens care products are not required with these. One unit refers to one bottle of 360 ml.

One Step Peroxide Contact Lens Cleaning and Disinfecting Solutions

One step peroxide contact lens cleaning and disinfecting solutions contain hydrogen peroxide antimicrobial solutions used for neutralization of lenses to avoid pronounced stinging and possible corneal damage. With these solutions neutralization is achieved by adding a catalyst during the disinfection process itself. Thus they are known as one step peroxide solutions. One unit refers to one bottle of 360 ml.

Contact Lenses

A contact lens is a corrective, cosmetic or therapeutic lens which is placed on the cornea of the eye. Contact lenses covered under this category include soft contact lens and rigid gas permeable contact lenses.

Rigid Gas Permeable Lenses

Rigid Gas permeable (GP) contact lenses are oxygen permeable and provide better vision in people who have astigmatism or distorted corneal shape. These are more durable and deposit resistant, easier to clean, long-lasting. One unit refers to one rigid gas permeable lens.

Soft Contact Lenses

Soft contact lenses are corrective gel-like lenses that conform to the shape of the eye. Soft contact lenses are flexible, convenient to use and tend to stay in place better than the gas permeable lenses. This segment includes daily disposables, weekly, biweekly, monthly and yearly soft contact lenses. One unit refers to one soft contact lens.

Spectacle Lenses

Spectacle lens is an ophthalmic device for correcting defective vision in those people who have vision disorders (Myopia, Hypermetropia, Astigmatism). These lenses can be made from either glass or plastic materials. Spectacle frames are not covered here. This category includes bifocal, progressive and single vision spectacle lenses.

Bifocal Spectacle Lenses

Bifocal spectacle lenses are lenses with two focal points for near and distant vision correction. These lenses are segmented into two portions for two different focal points. Both plastic and glass bifocal lenses are covered here. One unit refers to one pair of bifocal spectacle lenses.

Progressive Spectacle Lenses

Progressive spectacle lenses, also called progressive addition lenses (PAL) are corrective lenses used in eyeglasses to correct presbyopia and other disorders of accommodation. These are added for correction of refractive errors and better visualization in wearers with increased lens power. These are sometimes termed varifocals / multifocals, as there is gradual change in power from top half to bottom. One unit refers to one pair of progressive spectacle lenses.

Single Vision Spectacle Lenses

Single vision spectacle lens is a corrective lens with the same optical focal point or correction over the entire area of the lens. Thus these can be used for correction of distance or near vision. Both plastic and glass single vision lenses are covered here. One unit refers to one pair of single vision spectacle lenses.

15.1.1.7 Vitreo Retinal Surgery Devices

Vitreo retinal surgical devices are used for surgical procedures that treat eye problems involving the retina, macula and vitreous fluid. These devices include vitreo retinal surgical packs, related oils and fluids used for the vitreo retinal surgery. Vitreo retinal surgery packs, vitreo retinal prefilled silicone oil syringes and vitreo retinal per fluro carbon liquids (PFCL) are covered in this category.

Vitreo Retinal Per Fluro Carbon Liquids (PFCL)

Vitreo Retinal Per Fluro Carbon Liquids (PFCL) is used in vitreo retinal surgery for the treatment of complex retinal detachments. PFCL's facilitates intra operative retinal attachment in a patient. One unit refers to one pack which consists of a vial of 5ml and a syringe.

Vitreo Retinal Prefilled Silicone Oil Syringes

Vitreo retinal prefilled silicone oil syringes are used during the vitreo retinal surgery to inject highly viscous silicone oil, an adjunct in the repair of complex retinal detachments. Silicone oil improves the prognosis of complex retinal detachment. One unit refers to one prefilled silicone oil syringe of 10ml.

Vitreo Retinal Surgery Packs

Vitreo retinal surgery packs are customized surgical sets which are used to perform the vitreo retinal surgery (vitrectomy). They can be reusable and disposable surgical packs. Both reusable and disposable surgical packs are covered under this segment.

Disposable Vitrectomy Packs

Disposable vitrectomy packs are the customized surgical sets used to perform single vitreo retinal surgery (vitrectomy surgery) and can be disposed after the surgery. One pack consists of a vitrectomy cutter, single use ventural cassette, irrigation administration tube set, utility line and connector, syringe, mayo tray, stop cock, scleral plugs, infusion cannula, blade etc. One unit refers to one disposable vitrectomy pack.

Reusable Vitrectomy Packs

Reusable surgical packs are customized sterilizable packs which are used in vitrectomy surgeries, these are maintained for reuse. One pack includes high speed cutter (electric or pneumatic) infusion line, tube set, exchange line, infusion cannula, syringe, light pipe, blade etc. One unit refers to one reusable vitrectomy pack.

Note: 1). Value, distribution and company shares figures reflect annual gross sales of ophthalmic devices in local currency converted to $ at constant rate. Volume figures reflect the annual unit sales of ophthalmic devices. The annual growth (year on year growth) and compounded annual growth rate (CAGR) in tables is rounded off to one decimal place.

2). Company share data represents market share (in revenues and as percentage to total market) of companies in market categories and geographies tracked. The data is rounded off to the nearest decimal places.

15.2 Research Methodology

GlobalData's dedicated research and analysis teams consists of qualified professionals with experience in marketing, market research, consulting background in the medical devices industry and advanced statistical expertise.

GlobalData adheres to the codes of practice of the Market Research Society (www.mrs.org.uk) and the Strategic and Competitive Intelligence Professionals (www.scip.org).

All GlobalData databases are continuously updated and revised. The following research methodology is followed for all databases and reports.

15.3 Secondary Research

The research process begins with exhaustive secondary research on internal and external sources being carried out to source qualitative and quantitative information relating to each market.

The secondary research sources that are typically referred to include, but are not limited to:

- Company websites, annual reports, financial reports, broker reports, investor presentations and SEC filings;
- Industry trade journals, scientific journals and other technical literature;
- Internal and external proprietary databases;
- Relevant patent and regulatory databases;
- National government documents, statistical databases and market reports;
- Procedure registries; and
- News articles, press releases and web-casts specific to the companies operating in the market.

15.4 Primary Research

GlobalData conducts thousands of interviews a year with industry participants and commentators in order to validate its data and analysis. A typical research interview fulfills the following functions:

- It provides first-hand information on market size, market trends, growth trends, competitive landscape and future outlook;
- Helps in validating and strengthening the secondary research findings; and
- Further develops the analysis team's expertise and market understanding.

Primary research involves e-mail interactions and telephonic interviews for each market, category, segment and sub-segment across geographies.

The participants who typically take part in such a process include, but are not limited to:

- Industry participants: CEOs, VPs, marketing/product managers, market intelligence managers and national sales managers;
- Hospital stores, laboratories, pharmacies, distributors and paramedics;
- Outside experts: investment bankers, valuation experts, research analysts specializing in specific medical equipment markets; and
- Key opinion leaders: physicians and surgeons specializing in different therapeutic areas corresponding to different kinds of medical equipment.

15.5 Models

Where no hard data is available, GlobalData uses modeling and estimates in order to produce comprehensive data sets. The following rigorous methodology is adopted:

Available hard data is cross-referenced with the following data types to produce estimates:

- Demographic data on population segments;
- Macro-economic indicators such as GDP, inflation rate;
- Healthcare indicators such as health expenditure, physician base, healthcare infrastructure and facilities; and
- Selected epidemiological and procedure statistics.
- Data is then cross-checked by the expert panel. All data and assumptions related to modeling are stored and are made available to clients on request.

15.6 Forecasts

GlobalData uses proprietary forecast models. The following four factors are utilized in the forecast models:

- Historic growth rates;
- Macro-indicators such as population trends and healthcare spending;
- Forecast epidemiological data; and
- Qualitative trend information and assumptions.

The data is then cross-checked by the expert panel.

15.7 Expert Panels

GlobalData uses a panel of experts to cross-verify its databases and forecasts.

GlobalData's expert panel comprises marketing managers, product specialists, international sales managers from medical device companies; academics from research universities, KOLs from hospitals, consultants from venture capital funds and distributors/suppliers of medical equipment and supplies etc.

Historic data and forecasts are relayed to GlobalData's expert panel for feedback and adjusted in accordance with their feedback.

15.8 GlobalData Consulting

We hope that the data and analysis in this brief will help you make informed and imaginative business decisions. If you have further requirements, GlobalData's consulting team may be able to help you. GlobalData offers tailor-made analytical and advisory services to drive your key strategic decisions.

15.9 Currency Conversion

The Currency Conversion rate is based on 2011 average rate 1 USD = 79.722 JPY

15.10 Disclaimer

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