Guideline for Registration of Medical Devices

2022

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Drug Regulatory Authority

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1. Introduction

The Medicines Act of the Kingdom of Bhutan 2003 mandates the Drug Regulatory Authority to safeguard the health of the consumers against the harm ensuing from poor quality of medicinal products. So in accordance with the definition of medicinal product as stated in the Medicines Act of the Kingdom of Bhutan, the medical devices can be classified as a medicinal product.

In pursuance with the above statement, and towards ensuring the safety, quality and performance of the medical devices, the Drug Regulatory Authority (DRA) was mandated to regulate the medical devices by the Bhutan Medicines Board vide Executive Order No. MoH/30-DRA/2019/73, dated 16 April 2019. Accordingly, the DRA initiated the development of medical device strategy.

One of the key strategies towards enabling patient access to high quality, safe and effective medical devices is through the regulation of medical devices. When appropriately implemented, it ensures the safety of patients and consumers at large.

The document is intended to guide the Market Authorization holders, manufacturers and other parties involved in complying with the applicable regulatory requirement for registration of medical devices with the Authority. The guidance further describes in detail the procedures to be followed in the course of registration of medical devices in Bhutan.

Medical devices are classified based on a rule-based risk classification system into four risk classes i.e., class A to D with class A being the lowest risk class and class D posing the highest risk to the user or patient. This is in line with the guidance document developed by the Global Harmonization Task Force (GHTF) and Health Science Authority (HSA), Singapore. The actual risk classification of each medical device depends on the claims made by the product owner and on its intended purpose. Regulation and classification of medical devices is proportional to the level of risk associated with a medical device and the level of regulatory requirement increases with increasing degree of risk. Therefore, Class A medical devices are exempted from registration due to relatively low risks associated thereto. The medical devices are also further grouped into four types of categories based on their intended purposes to ease-out registration processes.

The Authority reserves the right to request any additional information to establish the safety, quality and performance of a medical device in keeping with the knowledge current at the time of evaluation. Alternative approaches may be used but these should be scientifically and technically justified. The Authority is committed to ensure that all registered medical devices will meet the requirements of the Essential Principles relating to quality, safety and performance. It is also important that applicants adhere to the administrative requirements to avoid delays in the processing and evaluation of applications.

2. Scope

1. This document is applicable to all devices which fall under the definition of a medical device defined in this guidance document.
2. This shall not apply to Class A medical Devices.

3. Objective

This guideline is developed to guide the applicant in the preparation and submission of dossiers of medical devices for the purpose of registration. The document also provides guidance to group and classify medical devices using the appropriate risk-based classification rules.

4. Normative References

The following documents, in whole or part, are normatively referenced in these guidelines and are indispensable for its application:

a. Medicines act of kingdom of Bhutan 2003
b. Bhutan Medicines Rules and Regulations 2019
c. ASEAN Medical Device Guidance
d. GHTF Principles of Medical Devices Classification
e. HSA Guidance on Grouping of Medical Devices for Product Registration

5. Definitions

1) **Accessory** refers to an article that is intended specifically by its manufacturer to:

   a. be used together with a medical device to enable that device to be used in accordance with its intended purpose as a medical device; or

   b. augment or extend the capabilities of that device in fulfillment of its intended purpose as a medical device; and therefore, should be considered as a medical device.

2) **Act** refers to the Medicines Act of the Kingdom of Bhutan 2003

3) **Active medical device** refers to any medical device, the operation of which depends on a source of electrical energy or any source of power other than that directly generated by the human body or gravity and which acts by converting this energy, but does not include any medical device intended to transmit energy, substances or other element between that medical device and a patient without any significant change to that energy, substance or element.

   Note: Standalone software is deemed to be an active medical device.

   Note: The concept "act by converting energy" includes conversion of energy from the power source to another form of energy. For example, from electrical source to thermal energy.

   The application of energy from the human body does not make a device "active" unless that energy is stored within the device for subsequent release. For instance, energy generated by human body and applied to the plunger of a syringe (thus causing a substance to be delivered to a patient) does not make this syringe an "active device". However, if a delivery system depends upon manual winding to preload a spring which is subsequently released to deliver a substance, then the device incorporating the spring is an "active device".

   Medical devices using pre-stored gases and/or vacuum as a power source are regarded as active devices, e.g. a pressurized canister delivery system.

   Heating/cooling pads intended only to release stored thermal energy are not active devices because they do not act by conversion of energy. However, heating/cooling pads which act by chemical action (e.g. endothermic or exothermic reaction) are active devices as they are converting chemical energy into heat energy and or vice versa.

   Radioactive sources that are intended to deliver ionizing radiation are regarded as active medical devices (e.g., radioactive isotopes coated beads), unless they are radiopharmaceuticals which may be infused into the body.

4) **Authority** refers to the Drug Regulatory Authority

5) **Body orifice** refers to any natural opening in a human body, the external surface of any eyeball, or any permanent artificial opening, such as a stoma or permanent tracheotomy.

6) **Conformity Assessment Body** refers to a legal entity that performs systematic and ongoing examination of evidence and the application of procedures to ensure a medical device complies with the essential principles for medical devices (for the purpose of this document)

7) **Component** refers to one of several possibly unequal subdivisions which together constitute the whole medical device to achieve the latter's intended purpose. A component may be known as a part but not a medical device in its own right.

8) **Central circulatory system** refers to the major internal blood vessels including the following:

   a. aorta abdominalis (abdominal aorta);

   b. aorta ascendens (ascending aorta);

   c. aorta descendens to the bifurcatio aortae (descending aorta to the bifurcation of aorta).

   d. aorta thoracica (thoracic aorta);

   e. arcus aorta (aortic arch);

   f. arteria carotis communis (common carotid artery);

   g. arteria carotis externa (external carotid artery);

   h. arteria carotis interna (internal carotid artery);

   i. arteriae cerebrates (cerebella arteries);

   j. arteriae coronariae (coronary arteries);

   k. arteriae pulmonales (pulmonary arteries);

   l. ilica communis (common iliac arteries and veins);

   m. truncus brachicephalicus (brachiocephalic trunk);

   n. venae cava inferior (inferior vena cava);

   o. venae cava superior (superior vena cava);

   p. venae cordis (cardiac veins);

   q. venae pulmonales (pulmonary vein);

9) **Central nervous system** refers to the brain, meninges and spinal cord.

10) **Derivative** refers to a 'non-cellular substance' extracted from human or animal tissue or cells through a manufacturing process. The final substance used for manufacturing of the device in this case does not contain any cells or tissues.

11) **Duration of contact** refers to the uninterrupted use of the medical device, not including any temporary interruption of its use during a procedure or any temporary removal of the medical device for purposes such as cleaning or disinfection; or

    the accumulated use of the medical device by replacing it immediately with another medical device of the same type, as intended by its Manufacturer.

Duration of contact	**Description**
less than 60 minutes	Transient
at least 60 minutes but not more than 30 days	short-term
more than 30 days	long-term

12) **Generic Proprietary Name** refers to a unique name given by the manufacturer to identify a medical device as a whole product, also known as the trade name or brand name.

13) **General Medical Devices** refers to all medical devices apart from *'In-vitro Diagnostic medical Devices'.*

14) **Grouping** refers to categorization of the medical device into four groups i.e., single, set, family or system based on its intended purpose, generic proprietary name and manufacturer.

15) **Harm** refers to any physical injury or damage to the health of a person, or any damage to property or the environment.

16) **Hazard** refers to any potential source of harm.

17) **Intended purpose/intended use** refers to the objective intended use or purpose, as reflected in the specifications, instructions and information provided by the Manufacturer of the medical device.

18) **Invasive medical device** refers to a medical device which, in whole or in part, penetrates inside a human body, either through a body orifice or through the surface of the body.

19) **In Vitro Diagnostic (IVD) medical device** refers to a medical device, whether used alone or in combination, intended by the manufacturer for the in-vitro examination of specimens derived from the human body solely or principally to provide information for diagnostic, monitoring or compatibility purposes.

20) **Manufacturer** refers to a person who:

    a. supplies the health product under his own name, or under any trade mark, design, trade name or other name or mark owned or controlled by him; and

    b. is responsible for designing, manufacturing, assembling, processing, labelling, packaging, refurbishing or modifying the medical device, or for assigning to it a purpose, whether those tasks are performed by him or on his behalf.

21) **Market Authorization Holder** refers to the establishment having technical authorization for sale and distribution by wholesale or the product manufacturer or government agency.

22) **Medical device** refers to all devices including an instrument, apparatus, appliance, implant, material or other article, whether used alone or in combination, including a software or an accessory, intended by its manufacturer to be used specially for human beings or animals which does not achieve the primary intended action in or on human body or animals by any pharmacological or immunological or metabolic means, but which may assist in its intended function by such means for one or more of the specific purposes of:

    a. diagnosis, prevention, monitoring, treatment or alleviation of disease;

    b. diagnosis, monitoring, treatment, alleviation of or compensation for an injury;

    c. investigation, replacement, modification, or support of the anatomy or of a physiological process;

    d. supporting or sustaining life;

    e. control of conception;

    f. disinfection of medical devices; or

g. providing information by means of in-vitro examination of specimens derived from the human or animal body.

23) **Non-invasive medical device** refers to a medical device other than an invasive medical device.

24) **Non-viable** refers to the entity that is incapable of growth, development and reproduction in relation to a biological entity.

25) **Notified Body** refers to a conformity assessment body that has been notified by an accreditation body to carry out conformity assessment activities for medical devices (for the purpose of this document)

26) **Reusable surgical instrument** refers to an instrument intended for surgical use by cutting, drilling, sawing, scratching, scraping, clamping, retracting, clipping or similar procedures, without connection to any active medical device, and which is intended to be reused after appropriate procedures for cleaning or sterilization of the instrument have been carried out.

27) **Risk** refers to a combination of the probability of occurrence of harm and the severity of that harm.

28) **Sterile state** refers to a state free of viable microorganisms.

29) **Stringent Regulatory Authority** refers to a national drug regulation authority considered by the World Health Organization (WHO) to apply stringent standards for quality, safety, and efficacy in its process of regulatory review of drugs and vaccines for marketing authorization.

6. Acronym:

1. ABR: Abridge route of registration
2. DRA: Drug Regulatory Authority
3. GHTF: Global Harmonization task force
4. HSA: Health Sciences Authority
5. IMDRF: International Medical Devices Regulators Forum
6. IVD: In Vitro Diagnostic Devices
7. NRA: National Regulatory Authority
8. SRA: Stringent Regulatory Agency
9. WHO: World Health Organization
10. FSCA: Field Safety Corrective Action

Section A: Overview of the Registration Procedures

7. General Principles

1) In accordance with section 16.2 of the Act, all medical devices manufactured, sold, distributed and imported shall be registered with the Authority
2) As per the Act, only the Market Authorization Holders shall be permitted to register medical devices with the Authority for sale and distribution.
3) The medical devices shall be categorized under class A to D based on classification rules specified by GHTF/IMDRF.
4) Few documentation exemptions for registration shall be provided for WHO pre-qualified medical devices. Exemption shall also be provided based on the principle of reliance on the Stringent Regulatory Authorities (SRA) similar to abridged registration adopted under Medicines Rules and Regulations.
5) The Market Authorization Holder shall be responsible for ensuring the safety, quality, effectiveness, appropriate transportation, adequate shelf-life of the registered medical devices and timely removal/recall in-case of defects.
6) The document requirements shall be proportional to the degree of risk associated with the medical devices.
7) The Medical devices falling under class A shall be exempted from registration.

8. Categorization of Medical Device

Medical device ranges from simple products like syringe to complex products with complex application like patient monitoring system which included many devices for the same purpose of monitoring vital signs. So there is a need to categorize the medical device by grouping the medical devices first for easy classification of medical devices based on the highest risk within the family, system or set and then classifying the medical devices to prioritize the medical devices for regulation.

9. Grouping of General Medical Devices (excluding IVD Medical Devices).

9.1 Principles of grouping medical devices

9.1.1 Grouping of medical devices is done basically to facilitate inclusion of multiple medical devices in one application which would be easier for classifying the medical devices as single, system, family and set.

9.1.2 Medical devices can be grouped into one of the following five categories:

a. Single;
b. Family;
c. System;
d. Set;
e. Special Group;

9.1.3 The following three basic rules must all be fulfilled for the grouping to apply:

a. generic proprietary name;

b. manufacturer; and
c. Common intended purpose.

9.2 Single

9.2.1 A SINGLE medical device is a medical device from a manufacturer identified by a medical device proprietary name with a specific intended purpose. It is sold as a distinct packaged entity. It may be offered in a range of package sizes.

9.2.2 The following are examples of single medical device;

a. Condoms that are sold in packages of 3, 12 and 144 can be grouped as a SINGLE medical device.
b. A company manufactures a software program that can be used with a number of CT scanners produced by other manufacturers. Although the software cannot function on its own, it can be used on different scanners. The software can be grouped as a SINGLE medical device.
c. A company that assembles and registers a first aid kit has now decided to also supply each of the medical devices in the first aid kit individually. Each medical device supplied individually as a medical device must be grouped separately as a SINGLE medical device.

9.3 Family

9.3.1 A FAMILY medical device is a collection of medical devices and each medical device FAMILY member:

a. is from the same manufacturer;
b. is of the same risk classification;
c. has the same medical device proprietary name;
d. has a common intended purpose;
e. has the same design and manufacturing process; and
f. has variations that are within the scope of the permissible variants.

9.3.2 A characteristic of a medical device may be considered a permissible variant if:

a. the physical design and construction of the medical devices are the same, or very similar;
b. the manufacturing processes for the medical devices are the same, or very similar;
c. the intended purpose of the medical devices is the same; and
d. the risk profile of the medical devices, taking into account the above factors, is the same.

9.3.3 The following are examples of family medical device;

a. Condoms that differ in color, size and texture but are manufactured from the same material and manufacturing process and share a common intended purpose can be grouped as a FAMILY.
b. IV administrative sets that differ in features such as safety features and length of tubing, but are manufactured from the same material and manufacturing process and share a common intended purpose can be grouped as a FAMILY.
c. Steerable guide wires that are available in various lengths and possess various tip shapes and tip flexibilities can be grouped as a FAMILY if their variations fall within the scope of permissible variants.

d. Spherical contact lens with additional features of UV protection, can be grouped as part of a FAMILY, as this feature does not affect the basic design and manufacturing of the lens.
e. In-the-ear hearing aids which are designed in different sizes to be fitted in the ear (i.e. outer ear, middle ear, and inner ear canal), and have been designed using the same main components including the signal processor and compression circuit, microphone, amplifiers, and receiver, can be grouped as a FAMILY.
f. Automated blood pressure monitors with optional features such as memory storage and print capability can be considered as part of a FAMILY.
g. Cardiac catheters that are available in a different number of lumens, lengths and diameters can be grouped as a FAMILY.
h. Contact lenses are available as toric lens and spherical lens. These products have different intended purposes and performances. They are designed and manufactured differently. Due to these differences, they shall NOT be considered as members of a FAMILY.

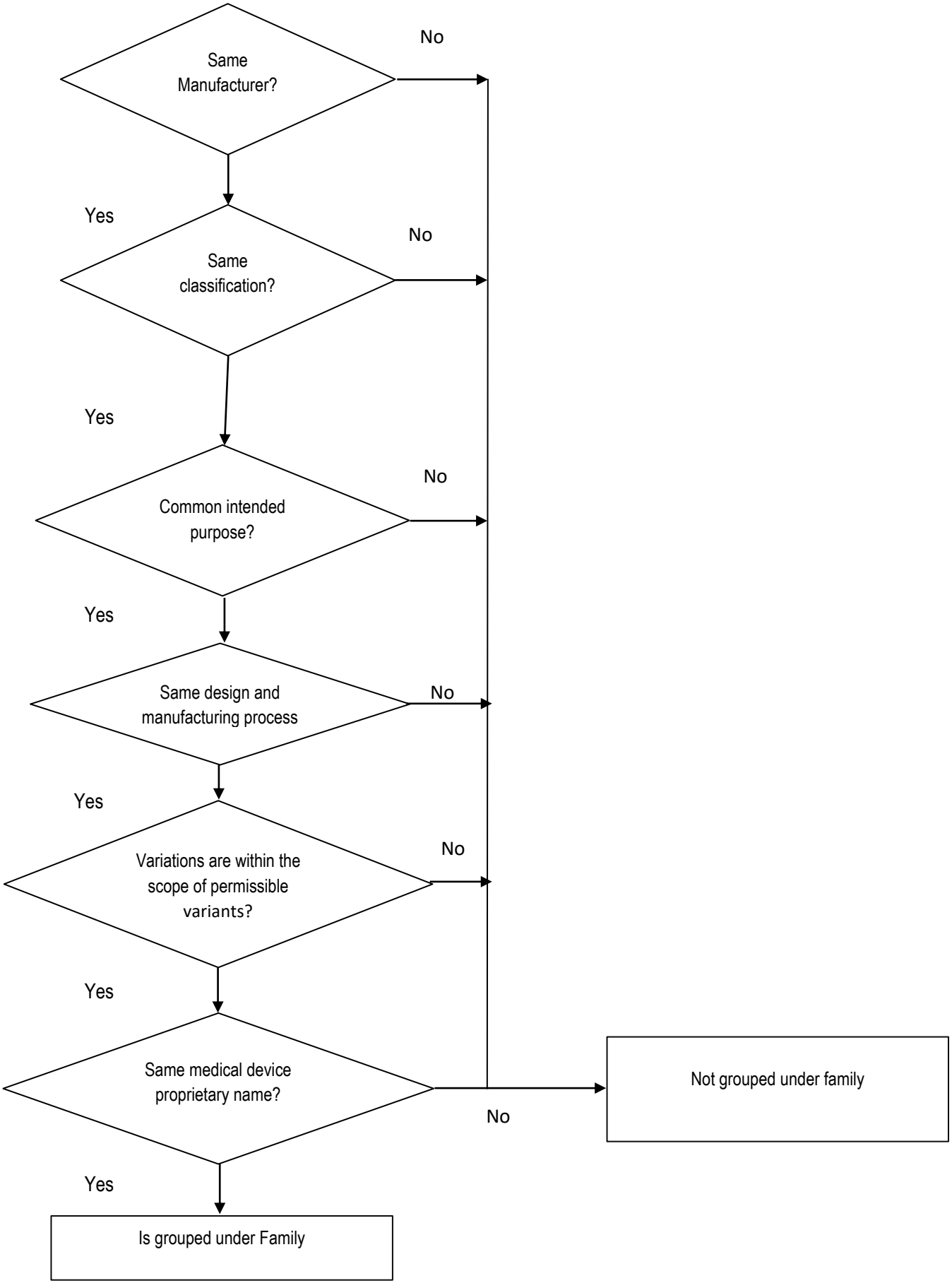

Figure 1: Decision Flowchart for Grouping of Medical Devices as a Family

Table 1: The list of permissible variants

Specific products	**Permissible variants**
Antibiotic test	(i) Concentrations
Catheter	(i) Number of lumens in catheter (ii) Material of catheter: PVC (polyvinyl chloride), PU (polyurethane), nylon and silicone (iii) Curvature (straight or pigtail) Polymer products-with or without DEPTH Stent- delivery system, that is over-the –wire or through the scope
IV Cannula	(i) Presence of injection port (ii) Presence of safety features
Condoms	(i) Texture (ii) Flavour
Contact lens	(i) Diopter, (ii) UV protection (iii) Tinting
Electrophysiological Catheter	(i) Electrode spacing (ii) Number of electrodes
Suture	(i) Number of strands (ii) Pledgets
Suture passer	(i) Design of jaw, handle or needle
Dental handpieces	(i) Rotational speed (ii) Material of handpiece
Dental brackets	(i) Material of bracket
IVD rapid tests	(i) Different assembly format: cassette, midstream, strip
IVD urinalysis strips	(i) Different combination of testing configurations
Polymer Products	(i) With or Without DEHP
Stent	(i) Delivery system, that is over –the-wire or through the scope

Table 2: Other permissible variants in general

Other permissible variants in general
Colour
Diameter
Flexibility
Gauge
Holding force
Isotope activity level
Length
Memory storage
Print capability
Radiopacity/Radiodensity
Shape
Size
Volume
Width
Viscosity (due to constituent material)
Type of monitoring(e.g. ceiling mount, wall mount or standing) Dimensional design differences due to pediatric versus adult use (the differences due to the different patient population are permissible, e.g. volume and length)

9.4 System

A medical device SYSTEM comprises of a number of constituent- components that are:

a. from the same manufacturer;
b. intended to be used in combination to complete a common intended purpose;
c. compatible when used as a SYSTEM; and
d. sold under a SYSTEM name or the labeling, instruction for use (IFU), brochures or catalogues for each constituent component states that the constituent component is intended for use with the SYSTEM

9.4.1 Constituent-components grouped as part of a system shall only be supplied specifically for use with that SYSTEM. Any constituent-component that is meant for supply for use with multiple SYSTEMs should be grouped together with each of these other SYSTEMs. Alternatively, these constituent-component(s) that are compatible for use with multiple SYSTEMs must be grouped separately.

9.4.2 In addition, if several SYSTEMs fulfill the following conditions to be grouped as a FAMILY, they may be grouped as a FAMILY:

a. the SYSTEMs are from the same manufacturer;
b. the SYSTEMs are of the same risk classification class;
c. the SYSTEMs have a common intended purpose;
d. the SYSTEMs have the similar design and manufacturing process; and
e. key constituent-components of the SYSTEMs have variations that are within the scope of the permissible variants.
f. has the same generic proprietary name.

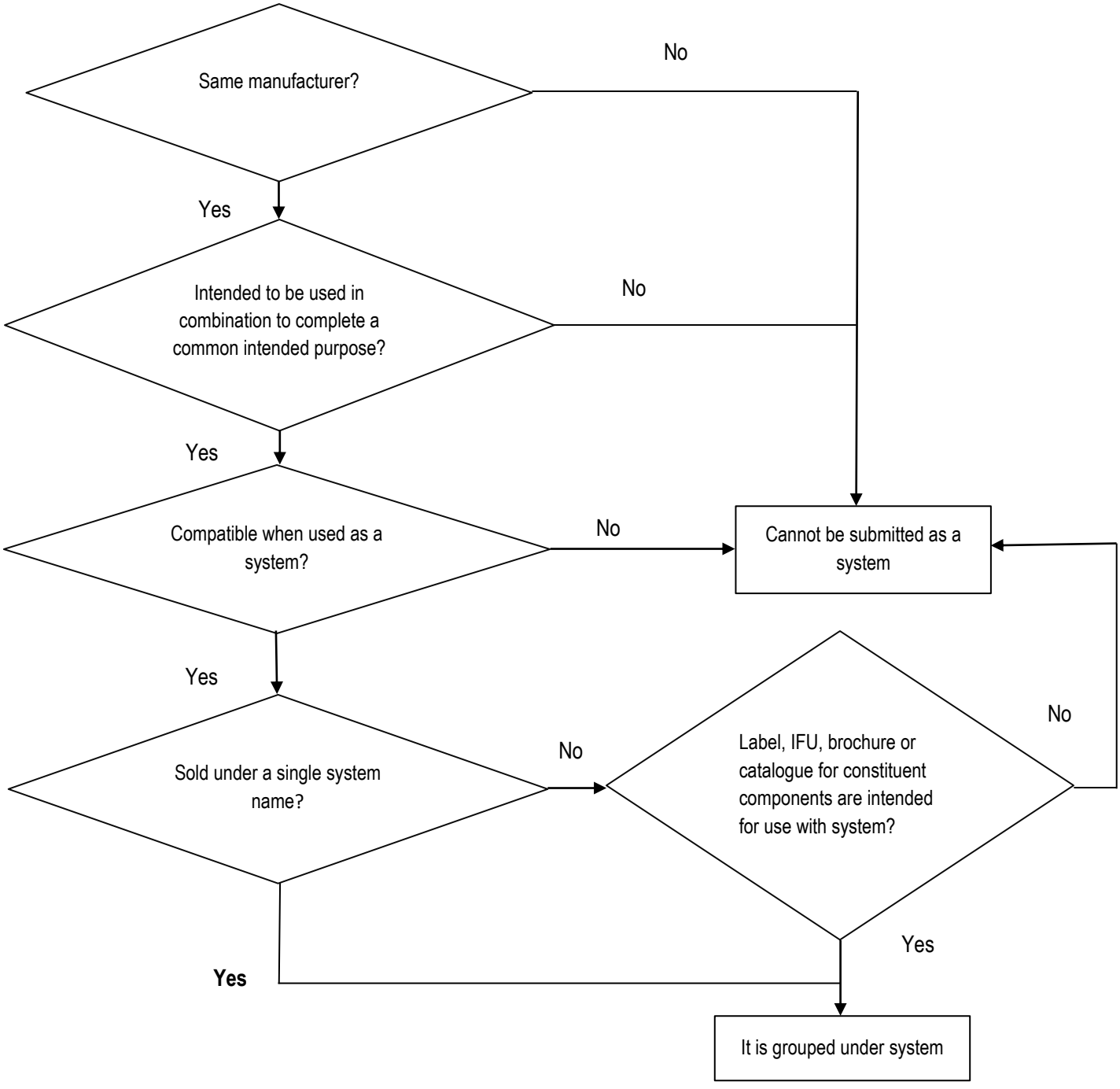

Figure 2: Decision Flowchart for Grouping of Products as a System

9.4.3 Individual SYSTEM names may contain additional descriptive phrases.

9.4.4 The applicant has to undertake the following post-market duties and obligations for all the constituent-components in the grouped SYSTEM, regardless of whether the constituent-components are from the same manufacturer of the SYSTEM:

a. comply with the conditions applicable to the grouped medical device and conditions imposed on the applicant;
b. submit applications to the Authority for changes made to the grouped medical device;
c. maintain records of supply;
d. maintain records of complaints;
e. report defects and adverse effects to the Authority, and
f. Notify the Authority concerning field safety corrective action (FSCA), including recall.

9.4.5 The following are examples of medical device system:

a. A hip replacement SYSTEM comprising of femoral and acetabular components can be grouped as a SYSTEM. The components must be used in combination to achieve a common intended purpose of total hip replacement. The size of the components may vary.
b. An electrosurgical unit and its accessories that consist of forceps, electrodes, electrode holders, leads, plug adaptor, when used together for a common intended purpose, can be grouped as a SYSTEM.
c. Optional accessories such as wireless controllers that are part of In-the-ear hearing aid can be grouped as a SYSTEM.
d. A glucose monitoring SYSTEM comprising of a glucose meter, test strips, control solutions and linearity solutions can be grouped as a SYSTEM.

9.5 Set

A medical device SET is a collection of two or more medical devices, assembled together as one package by a manufacturer. The medical device SET has the following:

a. a single proprietary SET name;
b. a common intended use;
c. Classification allocated to the set is at the level of the highest classified device within the set.

9.5.1 Each medical device in the SET may have different medical device proprietary names and intended purposes, may be designed and manufactured by different manufacturers.

9.5.2 When the SET is grouped, the manufacturer is able to customize the set for particular hospitals or physicians, while maintaining the same SET name and intended purpose. When the SET is grouped, all other combinations in that SET can be supplied on the market.

9.5.3 The collection of medical devices in a SET may differ in number and combination of products that comprise each SET while maintaining the same proprietary SET name and SET's intended use.

9.5.4 The SET name indicated for the medical device must appear in the product label affixed on the external package of the SET. Individual medical devices in the SET do not require to be labelled with that SET name. Individual medical devices in the SET may contain additional descriptive phrases.

9.5.5 The following are examples of medical device set:

a. A first aid kit consisting of medical devices such as bandages, gauzes, drapes and thermometers, when assembled together as one package by a manufacturer, can be grouped as a SET.
b. A dressing tray consisting of a number of medical devices when packaged together for convenience to meet a specific purpose by a manufacturer can be can be grouped as a SET.
c. A manufacturer supplies dressing trays customized with different quantity and type of gauze and sutures to different hospitals while maintaining the same SET name and intended purpose.
d. A promotional pack consisting of different number of medical devices, for example multi-purpose solution, saline solution, and contact lens case, will not require a SET registration. Individual medical devices shall require registration as SINGLE medical devices. Special Grouping Rule for Class A Reusable Surgical Instruments.

9.6 Special Group

Applicable for all the medical devices which can't be grouped with others. For example: Class A lung retractor and Class A kidney retractor have the same overall intended purpose as they are both retractors. However, lung forceps and lung retractors do not have the same overall intended purpose and therefore cannot be grouped together as a FAMILY.

Table 3: Examples for Special Group

Instrument name	**Description**	**Intended purpose**
ABC Dressing Forceps	Delicate, Serrated Tips, Straight, 4¾"	To pick up or grasp tissue or items in the surgical wound
DEF Kidney Forceps	Half curved, 222 mm Length	To grasp renal polyps
HIJ Lung Forceps	Triangular jaws, jaw width 11", length 8"	To grasp lung tissue
XYZ Uterine Biopsy Forceps	Oblong basket jaw, jaw size 3x10mm, shaft length 10"	To grasp tissue during transvaginal or transrectal tissue biopsy

Note: In the example above, the forceps have the same manufacturer, but have different proprietary names (ABC, DEF, HIJ and XYZ) and different intended purposes. These forceps are Class A medical devices. These forceps can be grouped under special grouping.

10.In Vitro Diagnostic Medical Device grouping.

10.1 An IVD TEST KIT

Is an in vitro diagnostic (IVD) device that consists of reagents or articles that are:

1) from the same manufacturer;
2) intended to be used in combination to complete a specific intended purpose;
3) sold under a single TEST KIT name or the labeling, instructions for use (IFU), brochures or catalogues for each reagents or article states that the component is intended for use with the IVD TEST KIT; and
4) Compatible when used as a TEST KIT.

10.1.1 An IVD TEST KIT does not include the instruments, such as analyzers, needed to perform the test.

10.1.2 Information on all reagents or articles within an IVD TEST KIT must be as part of one product.

10.1.3 Reagents or articles from another manufacturer may be grouped with the IVD TEST KIT.

10.1.4 Examples: A Human Immunodeficiency Virus (HIV) Enzyme Linked Immunosorbent Assay (ELISA) TEST KIT may contain controls, calibrators and washing buffers. All the reagents and articles are used together to detect HIV and therefore can be grouped as a TEST KIT. These reagents and articles can be supplied separately as replacement items for that particular TESTKIT.

10.2 An IVD CLUSTER

It comprises of a number of *in vitro* diagnostic reagents or articles that are:

1) from the same manufacturer.
2) within risk classification A or B;
3) of a common test methodology ; and
4) of the same IVD CLUSTER category.

The IVD CLUSTER may include analyzers that are designed for use with the reagents in the IVD CLUSTER

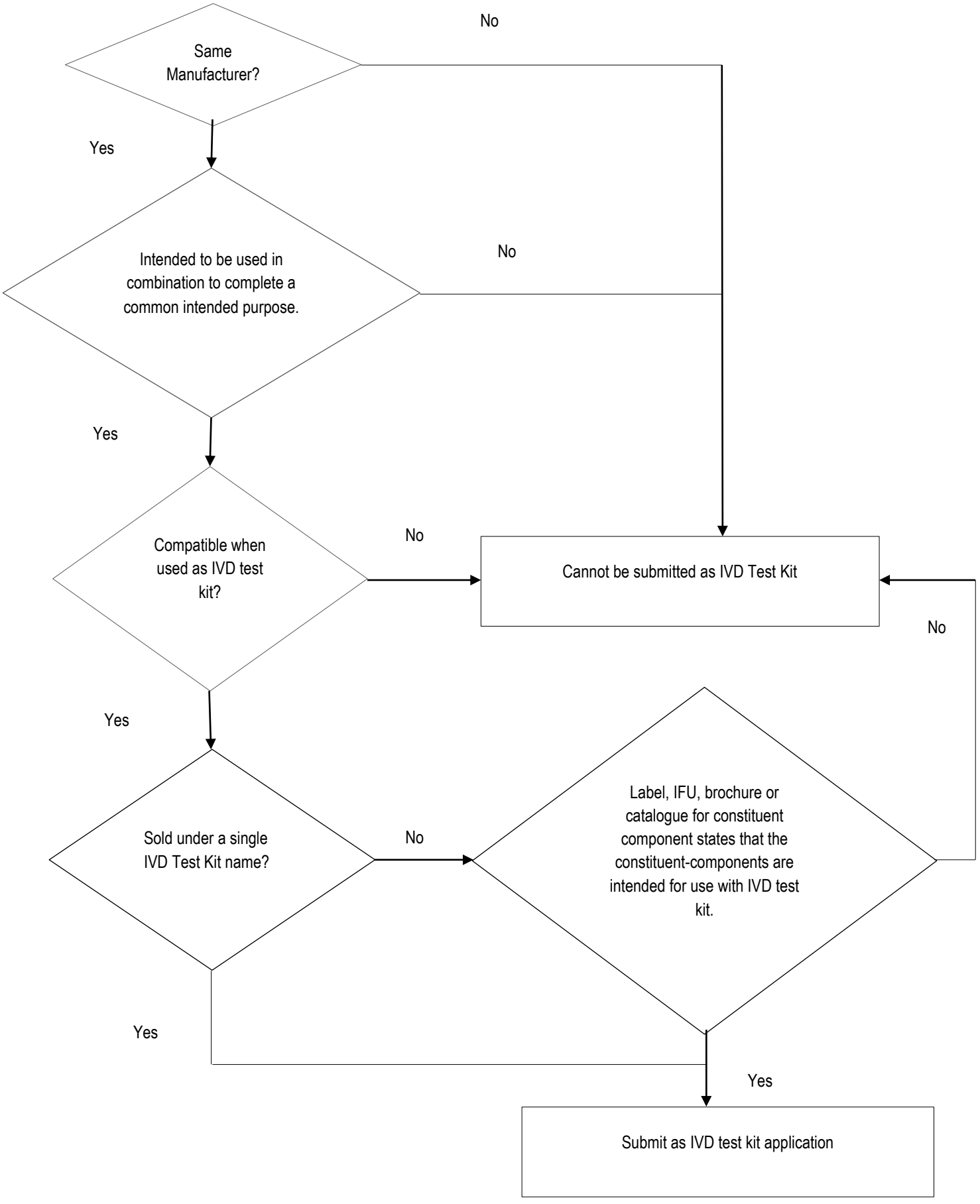

Figure 3: Decision Flowchart for Grouping of Products as a IVD Test Kit

*Note: This list of IVD CLUSTER categories is only applicable to **Class A and Class B IVD**. It should be clearly stated in the label or IFU of each reagent or article that it is intended for use, whether alone or in combination, for the same category.*

Table 4: IVD Cluster Categories

Methodology	Cluster Category (closed list)	Examples of Analytes (non-exhaustive list)
Clinical Chemistry	Enzymes	i. Acid Phosphate ii. Alpha-Amylase iii. Creatine Kinase iv. Gamma-Glutamyl Transferase v. Lactate Dehydrogenase vi. Lipase
	Substrates	i. Albumin ii. Bilirubin iii. Urea/Blood Urea iv. Cholesterol v. Creatinine vi. Glucose
	Electrolytes Reagents	i. Ammonia ii. Bicarbonate iii. Calcium iv. Chloride v. Magnesium vi. Phosphate Inorganic/ Phosphorus
	Electrolyte Electrodes	i. Ammonia Electrodes ii. Carbon dioxide (Bicarbonate) Electrodes iii. Calcium Electrodes iv. Chloride Electrodes v. Magnesium Electrodes vi. Potassium Electrodes
	Substrate Electrodes/Biosensors	i. Creatinine Electrodes ii. Glucose Electrodes iii. Glycated Hemoglobin Electrodes iv. Lactate Electrodes v. Urea Electrodes vi. Bilirubin Electrodes
Immunochemistry	Immunoglobulins (Without IgE)	i. Immunoglobulin A ii. Immunoglobulin D iii. Immunoglobulin G iv. Immunoglobulin M v. Kappa and Lamda chain vi. Immunofixation kits
	Complement Components	i. Complement Component C1q ii. Complement Component C1 in-activator iii. Complement component C3/C3c iv. Complement component C4

		v. Complement component C5a
	Transport Proteins	i. Albumin ii. Ceruplasmin iii. Haptoglobin iv. Hemopixin v. Lactoferrin vi. Pre-albumin/Transthyretin
	Lipoproteins	i. Apolipoprotein A I ii. Apolipoprotein A II iii. Apolipoprotein B iv. Apolipoprotein E Sub-typing v. Lipoprotein(a)
	Other Specific Proteins	i. a1- Acid Glycoprotein ii. a1-Antitrypsin iii. a2-Macroglobulin iv. a1-Microglobulin v. Fibronectin vi. Immuno Reactive tRYPSIN
	Allergy	i. Immunoglobulin E- Total ii. Mmunoglobulin E- Screen iii. Mmunoglobulin E-Specific, monotest/monoresult iv. Allergene specific IgA v. Allergene specific IgG
	Cancer Markers	i. BR-marker CA15-3 ii. GI-marker CA19-9. CA242 iii. Carcinoembryonic Antigen iv. Total Prostatic Specific Antigen v. Alphafetoprotein (AFP) vi. P53
	Thyroid Function Markers	i. Free Triiodothyronine ii. Free Thyroxine iii. Thyroid Stimulating Hormone iv. T-Uptake v. Thyroglobulin vi. Neonatal Thyroxine
	Fertility/Pregnancy Hormones/ Proteins	i. Androstenedione ii. Estradiol iii. Prolactin iv. Human Chorionic Gonadotropic Total v. Human Placental Lactogen vi. Estriol
	Diabetes Assays (Hormones)	i. C-Peptine ii. Glucagon iii. Insulin iv. Glycosylated. Glucated Haemoglobin v. Islet Cell Ab vi. Proinsulin
	Renal Metabolism Assays	i. Aldosterone ii. Angiotensin I/II iii. Angiotrnsin Converting Enzyme iv. Cortisol v. Renine

	Bone and Mineral Metabolism Assays	i. Bone Alkaline Phosphate ii. Calcitonin iii. Cross-linked C-Telopeptides iv. Cross-linked N-Telopeptides v. Cyclic Adenosin Monophosphate vi. Hydroxyproline
	Encocrine Hormones and Peptides	i. Adrenocorticotropic Hormone ii. Human Growth Hormone iii. Insulin-like Growth Factor I iv. Insulin-like Growth Factor Binding Protein 1 v. Vasointestinal Peptide vi. Vasopressin
	Neuroendocrine Function Assays	i. Bombesin ii. 17-Hydroxy-Ketosterone iii. B-Endorphin iv. Neurotensin v. Somatostatin vi. Substance P
	Other Individual and specified Hormones	i. Gastrin ii. Gonadotropin-Releasing Hormone iii. Melatonine iv. Pepsinogen v. Adrenaline vi. Dopamine
	Anaemia	i. Erythropoietin ii. Ferritin iii. Folate iv. Iron v. Iron Binding Capacity vi. Soluble Transferrin Receptor
	Vitamins	i. Vitamin B1 ii. Vitamin B2 iii. Vitamin B6 iv. Vitamin B12 v. Vitamin D (Cholecalciferol) vi. Intrinsic Factor(Blocking Antibody)
	Non-Immuno Suppressive Therapeutic Drug Monitoring	i. Phenobarbitol ii. Digitoxin iii. Gentamicin iv. Valproic Acid v. Caffeine vi. Theophylline vii. Methotrexate
	Immunosuppressive Therapeutic Drug Monitoring	i. Cyclosporine ii. Tacrolimus iii. Rapamycin(Sirolimus) iv. Mycophenolate

	Toxicology	i. Amphetamines ii. Cociane iii. Babiturates iv. Morphines v. Phencyclidine vi. Acetaminophen vii. Catecholamines viii. Ethanol ix. Salicyclate
	Auto-Immune Diseases	i. Anti-nuclear antibodies(ANAs) ii. Anti-topoisomerase iii. Organ-specific autoantibodies iv. Circulating Immuno-complex v. TSH Receptor antibodies vi. Anti-Cardiolipin antibodies
	Rheumatoid Inflammatory Diseases Markers	i. Anti-Streptococcal Hyaluronidase ii. Anti-Streptokinase iii. Anti-Streptolysin O iv. C-Reactive Protein v. Anti-Staphylolysin vi. Anti-Streptococcal vii. Screening
	Liver Function	i. MEGX ii. Carbohydrate Deficient Transferrin
	Cardiac Markers	i. BNP/proBNP ii. Creatine Kinase-MB iii. Myoglobin iv. Troponin I/T v. Homocysteine vi. High-Sensitivity C-Reactive Protein
	Bacterial Infection Immunology	i. Bascilus subtilis ii. Escherichia coli
	Viral Infection Immunology	i. Influenza Virus
	Parasitic Infection Immunology	i. Entamoebahistolytica ii. Leishmania
	Fungal Infection Immunology	i. Candida albicans ii. Asperigillus

Haematology (Blood tests for transfusion excluded)	Haemoglobin Testing	i. Hemoglobin determinations (Total Hb) ii. Fractional oxyhemoglobin (O2Hb) iii. Fractional carboxyhemoglobin (FCOHb) iv. Fractional methemoglobin (FMetHb) v. Fractional deoxyhemoglobin (FHHb)
	General Coagulation Tests	i. Prothrombin Time ii. Thrombin Time iii. Activated Clotting Time iv. Activated Partial Thromboplastin Time
	Haemostasis (Coagulation)	i. Prothrombin ii. Thrombin iii. Fibrinogen iv. Protein C and Protein S reagents v. C1-inhibitors vi. Heparin vii. Alpha-Antiplasmin viii. Fibrin ix. Factor XII x. Platelet Factor 4 xi. Plasminogen
	Other Hematology Tests	i. Complete Blood Count ii. Hematocrit iii. Erythrocyte Sedimentation rate
Histology/Cytology	Cytokinesis (Lymphokinesis)/ Immunomodulators	i. Soluble Antigens/Receptors ii. Interferons iii. Tumor Nectosis Factors iv. Interleukins v. Colony Stimulating Factor vi. Tumor Necrosis Factors Receptors vii. Interleukins Receptors
	Histology/ Cytology Reagents	i. Embedding, Fixing, Mounting medica ii. Cytochemical Staining iii. Stain Solutions iv. Immunohistology kits
Microbiology culture Cytochemical Staining Embedding, Fixing, Mounting media Stain Solutions Immunohistology kits	Culture Media	i. Additives for DCM ii. Prepared Media(Tubes, bottles, plates) iii. Cells. Media, Swrum for Viral Culture iv. Dehydrated culture media (DCM)
	Susceptibility Testing	i. Eruthromycin susceptibility test for Staphylococcus aureus
	Identification of bacteria by testing for the susceptibility of the bacteria to the certain antibiotics	i. Tobramycin susceptibility test for pseudomonas aeruginosa ii. Fungal susceptibility testing

	Biochemical Culture Identification	i. Gram Negative Manual ID ii. Gram Positive Manual ID iii. Other ID Kits Manual-Anaerobes, Fastidious iv. Mycoplasma
	Immunological culture identification (ID)	i. Streptococci Grouping slide tests ii. Serotyping(E.Coli, Salmonella, Shigella etc)
	Nucleic Acid (NA) based culture identification	i. NA Identification-MRSA ii. NA Identification-other resistance markers
	Serological Identification (ID)	i. For Parasitology and Mycology (Fungi and Yeast)
	Oncogenes: Genes whose mutation or enhanced expression turns normal cell into cancer cell	i. Streptococci Grouping slide tests ii. P53 iii. Myc(8Q24) iv. TERC (3q26)
	Bacterial Infection (Detection by NA Reagents)	i. Staphylococcal detection ii. E.coli detection
	Viral infections (Detection by NA reagents)	i. Influenza and Para-influenza NA reagents
	Fungal Infections	i. Fungi NA reagents

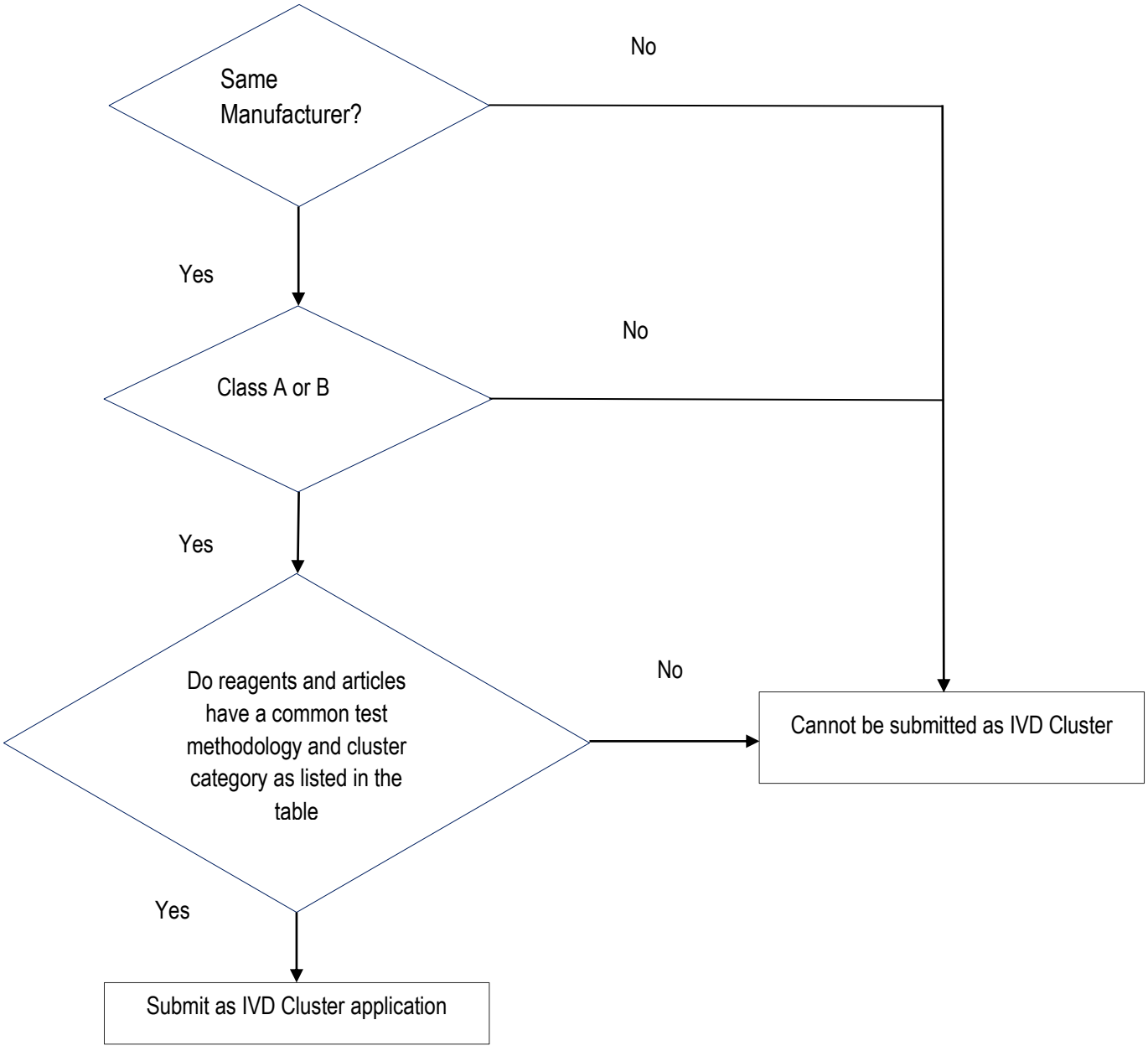
Same Manufacturer?
No
Yes
Class A or B
No
Yes
Do reagents and articles have a common test methodology and cluster category as listed in the table
No
Cannot be submitted as IVD Cluster
Yes
Submit as IVD Cluster application

Figure 4: Decision Flowchart for Grouping of IVD Cluster

11. Classification of medical devices

The classification of medical devices is a 'risk based' system considering the vulnerability of the human body and taking account of the potential risks associated with the devices. This approach allows the use of a set of criteria that can be combined in various ways in order to determine classification, e.g. duration of contact with the body, degree of invasiveness and local vs. systemic effect. These criteria can then be applied to a vast range of different medical devices and technologies.

11.1 Factors influencing medical device risk classification

A number of factors are responsible for the risk classification of medical devices like:

a. the duration of contact of medical device with the body,
b. the degree and site of invasiveness into the body,
c. whether the medical device delivers medicines or energy to the patient,
d. whether they are intended to have a biological effect on the patient's body
e. local *versus* systemic effects (e.g. conventional *versus* absorbable sutures)
f. whether device is to be used alone or in combination,
g. intended action on the human body,
h. whether device comes in contact with injured skin,
i. ability to be reused or not and whether the medical device is used for diagnosis or for the purpose of treatment.

11.2 Risk presented by a particular device depends on:

a. It's intended purpose
b. Effectiveness of risk management techniques applied during design, manufacture and use.
c. Its intended user(s)
d. Mode of operation
e. Technologies

11.3 General risk classification system for medical devices (including IVD devices)

Table 5: Risk Classification of Medical Devices

Risk Class	Risk Level	Examples
A	Low Risk	Wheelchairs / Tongue depressors
B	Low-moderate Risk	Hypodermic needles / Suction equipment
C	Moderate-high Risk	Ventilators / Bone fixation plates
D	High Risk	Heart valves / Implantable defibrillator

Table indicates the four risk classes of medical devices. The examples given are for illustration only and risk classification rules must be applied to each medical device according to its intended purpose.

11.4 General Principles for classifying medical devices

The following is a list of general principles which should be kept in mind when classifying a device

1) Medical devices are defined as articles which are intended to be used for a medical purpose.
2) It is the intended purpose that determines the class of device and not the particular technical characteristics of the device.
3) The intended purpose of the device should be substantiated (if required) and be representative of the technical characteristics of the device
4) It is the intended and not the accidental use of the device that determines its class.
5) It is the intended purpose assigned by the manufacturer to the device that determines the class of device and not the class assigned to other similar products.
6) Accessories are classified separately from their parent device.
7) The mode of action of a medical device should be clear and evidenced with appropriate data to confirm this mode of action.
8) If the device can be classified according to several rules then the highest possible class applies.
9) Multipurpose equipment which may be used in combination with medical devices are not themselves classed as medical devices unless the manufacturer places them on the market with the specific intended purpose as a medical device.
10) If the device is not intended to be used solely or principally in a specific part of the body, it must be considered and classified on the basis of the most critical specified use.
11) Standalone software is regarded as driving or influencing the use of a device and so falls automatically into the same class. Software is classified on a case-by-case basis. If the output of the software is general patient information, the software is generally not a device. If the output of the software is based on analyzing/manipulating clinical data to facilitate diagnosis or determine treatment schedules, the software is more likely to be a medical device.
12) It is the manufacturer that determines the appropriate class for their product. Consequently, the primary responsibility for the classification of a medical device is placed on the manufacturer. The manufacturer confirms the classification with a Notified Body of their choice. If there is uncertainty or disagreement between the manufacturer and the Notified Body, the matter must be referred to the Authority for decision.

11.5 Risk classification rules

1) The classification rule will be adopted as per GHTF guidance document for classification of medical devices.
2) the classification rules must be considered to determine the classification of the medical device
3) In some cases, classification is inconclusive and more than one rule can apply. If this happens the higher classification applies.
4) If a medical device is intended to be used in more than one part of a patient's body, the medical device is classified on the assumption that it will be used in the part of the body that poses the highest risk. For invasive devices, this may be the central circulatory or central nervous systems.
5) Accessories are classified separate to the medical device they are used with.
6) For groups, systems and procedure packs, the classification for the entire group, system or pack is the highest classification of any individual device in the group, system or pack.
7) The presence of a grouped medicine in a procedure pack does not affect the classification. For example, if there is a device in the pack that is classified as Class C, then the entire pack is

classified as Class C

8) If the device is to be used in combination with another medical device, the classification rules must be applied separately to each device.
9) In the event of a dispute between the manufacturer and the notified body concerned, resulting from application of the classification rules, the Authority shall determine the classification.

11.6 Special Cases

11.6.1. Software

a. Where it drives, controls or influences the use of a separate medical device, it is classified according to the intended use of the combination.
b. Where intended as an accessory to a medical device, it should be classified separately from the device with which it is used.
c. Standalone software (to the extent it falls within the definition of a medical device) is deemed to be an active device since it relies on an energy source for its operation.

11.6.2. Medical devices with a measuring function

A medical device is considered to have a measuring function if the device is intended by the manufacturer to:

b. Measure quantitatively a physiological or anatomical parameter, (or)
c. Measure a quantity or a qualifiable characteristic of energy, (or)
d. Measure substances delivered to or removed from the human body.

The measurements given by a medical device must:

i. Display units of measurement acceptable to The Authority, or be compared to at least one point of reference indicated in Bhutan's legal units of measurement or
ii. other units of measurement acceptable to The Authority, and be accurate to enable the device to achieve its intended purpose.

The medical device with a measuring function must meet each of the above requirements.

Section B: General Requirements for Registration

1) General Requirements of Dossier/s:

The dossier should be:

a. submitted in soft/hard copy as notified by the Authority from time to time;
b. arranged properly in a chronological order (including page numbers) as per the guidelines.
c. complete as per the requirements specified in this guideline;
d. either in English or Dzongkha. For documents in foreign local language, the English translation may be accepted provided it is authenticated by the NRA or Public Notary of the country of origin.
e. submitted with original manufacturing license, GMP/Quality System certificates (ISO 13485) and Free Sale Certificate or in case of duplicate copy it must be attested by the Public Notary.
f. where supporting documents such as reports or certificates are provided every document must be submitted in full, i.e. all the pages of a document must be submitted;
g. For performance reports and certificate of analysis the standards used must be clearly reflected.
h. all copies of labeling, certificates, reports and other documents submitted must be legible;
i. all certificates submitted must be within its validity period.

2) Routes of Registration:

There are three evaluation routes for Class B, C and D medical devices as follows:

a. Full Evaluation Route
b. Abridged Evaluation Route

Table 6: Eligibility of Registration

Evaluation Route	**Eligibility Criteria**
1) Abridged Evaluation Route(ABR)	For medical devices that is WHO prequalified or has obtained at least one regulatory agency approval from WHO recognized SRAs or IMDRF member countries.
2) Full Evaluation Route	For medical devices that isn't eligible for ABR.

3) Process flow for registration

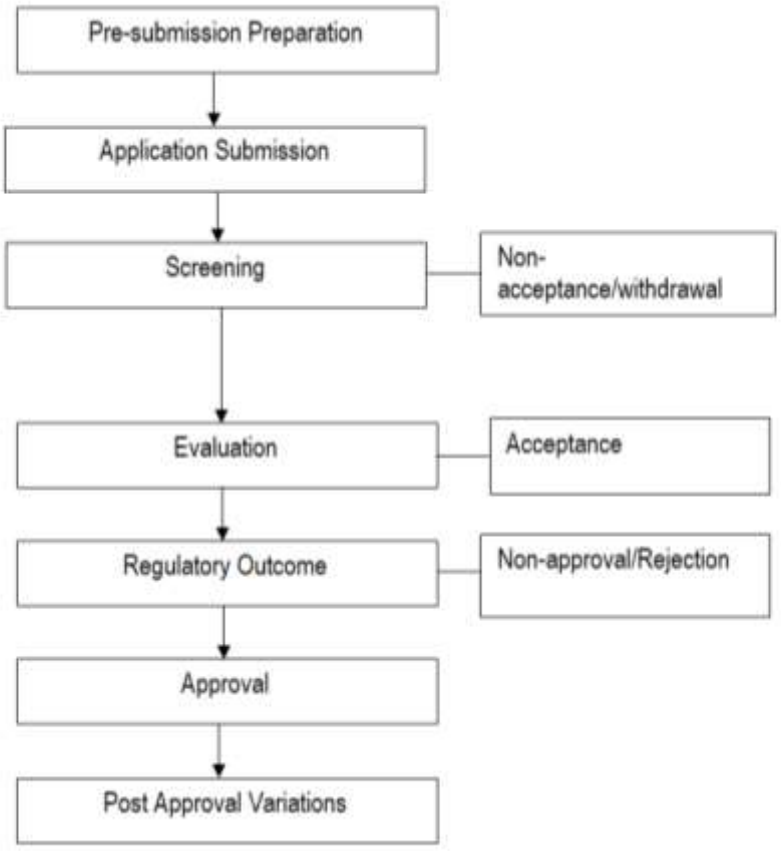

Figure 5: Registration process

4) Procedure for Registration

a. Pre-submission Preparation

The applicant may discuss with the Authority regarding:

i. Evaluation route
ii. Document required against respective application type and evaluation routes
iii. Product sample requirement

b. Application Submission

The applicant submits dossier along with prescribed fee and application form (Annexures).

c. Application Screening

i. Following the receipt of the application by the Authority, the dossier will be screened to ensure the correctness of the application type and the completeness of the dossier.
ii. The date of receipt of the application including the checklist will be taken as the submission date and the start of the screening timeline.
iii. The turnaround time for the application screening (pre-screening) is 10 working days.

iv. During screening, the application type/evaluation route may be reassigned to a more appropriate one. The applicant will be informed of this change and the Authority will take necessary actions.
v. Applications will not be accepted for the following deficiencies which is not exhaustive to:
    a) If any required section as per the guideline is not submitted.
    b) The dossier contains unexplained information from different manufacturers.
    c) Documents are not legible.
    d) Documents not in Dzongkha or English.
    e) Documents not submitted in chronological order.
    f) Banned Medical devices.

vi. If deficiencies are identified in an application, a screening query will be sent to the applicant.
vii. If the applicant fails to address the deficiencies raised during screening, the application will not be accepted for evaluation.
viii. The stop-clock starts when a query is sent and ends upon receipt of a complete and satisfactory response to the query from the applicant.
ix. The total number of queries sent during screening will be capped at two.
x. An applicant has fifteen (15) working days to respond to each query starting from the date of dispatch of the query.
xi. The application will only be accepted when all deficiencies have been adequately addressed and the Authority is satisfied that the dossier is complete for evaluation.
xii. If the application is subsequently re-submitted, it will be processed as a new application.

d. Application Evaluation

i. Once the application is accepted after screening, the evaluation stage begins.
ii. Evaluation queries may be issued to the applicant if clarification or additional information is required. The maximum number of queries from the Authority will be capped at two.
iii. The stop-clock starts whenever the Authority issues a query and stops upon the receipt of a response from the applicant.
iv. The registration certificate will be issued within sixty (60) calendar days from the date of receipt of complete required documents after the application screening;
v. The application shall be rejected if the submitted information in the dossier is completely different against the application made.
vi. The Authority may engage external evaluators, experts and advisory committee in the evaluation process, when deemed necessary. These experts may be included from both local or/and overseas institutions. All external evaluators and experts are bound by conflict of interest and agreement to protect the information made available to them.
vii. The qualification and experience of the evaluators shall be based on the provision of the Quality Manual of the Authority.
viii. The product registration certificate is valid for three years.
ix. The applicant can renew their products only once. After which the product must be evaluated once again.

e. Rejection of the Application after evaluation

An application for registration will be rejected after evaluation in following conditions which is not exhaustive to:

i. The applicant fails to respond to the queries or submit the required additional documents within six months from the date of last correspondence.
ii. The applicant fails to submit all the required documents and complete the registration formalities within one (1) year.

iii. If the certificate of analysis or performance data/report submitted is not as per the specifications.
iv. Submission of manipulated or fraudulent documents.

If the application is subsequently re-submitted, it will be processed as a new application.

f. Regulatory Outcome

A regulatory decision is made following the conclusion of the risk-benefit assessment by the Authority based on the data submitted. Applicants will be notified of one of the following outcomes:

i. ***Approval***: the application satisfies the requirements of registration.
ii. ***Pending***: the application can be approved subject to adequate response to deficiencies and/or testing reports.
iii. ***Rejection***: the application does not satisfy the requirements of registration.

g. Cancellation of Registration:

The Authority may, in the interest of public safety, reject or cancel the registration of any product and such products shall not be imported, manufactured, sold, supplied or possessed for sale, if:

i. Any of the conditions of registration of the product has been contravened. This may include the mismatch between the documents submitted at the time of registration and GMP or equivalent quality system audit.
ii. Any reports on adverse events of serious nature have been received from National Materiovigilance Centre or any other national or international sources.
iii. MAH defaults timely renewal beyond 30 working days of grace period.
iv. Voluntary withdrawal of registration by the MAH.
v. Manufacturer or MAH obstructs the inspection of the Manufacturing firms or premises. OR
vi. For any other matters as specified by the Board at the time of cancellation.

Re-registration of application shall not be accepted for products which have been canceled due to conditions mentioned in i and ii.

h. Registration Exemption:

In accordance with section 5.13 of the Act, medicinal products may be exempted from the registration requirement on the following grounds;

i. Medical device for the purpose of research.
ii. Product sample for the purpose of registration
iii. Medical device for personal use
iv. Limited quantities of medical devices for specific diseases on a named-patient basis
v. In public health emergencies as notified by relevant agencies.
vi. Limited quantities of medical devices required for approved medical camps.
vii. All the imported components/raw material for the manufacture of medical devices in the country.
viii. Medical Devices donated to government agencies or international organizations/institutions.
ix. Medical devices not notified by DRA.

Section C: Dossier Requirements

Part 1: Administrative Document Requirements

Applicable for both the registration routes.

1) Application form

The application form for registration of a Medical Device is provided in Annexure 1 and 2 of this Guideline. The date of application should correspond to the date of submission of the registration dossier to the Authority with all the required Information

2) Letter of Authorization from the manufacturer (As per Annexure 5)

3) Declaration of Conformity

The manufacturer should attest that its medical device complies fully with all applicable Essential Principles for Safety and Performance as documented in a written Declaration of Conformity (DOC). At a minimum, this declaration should contain the following information:

a. statement that each device is the subject of the declaration
b. complies with the applicable Essential Principles for Safety and Performance(for class C and D only),
c. has been classified according to the classification rules set by the GHTF, and,
d. has met all the applicable conformity assessment elements;
e. a Global Medical Device code and term for the device(s) if applicable;
f. description of Conformity assessment procedure;
g. date from which the Declaration of Conformity is valid;
h. name and address of the device manufacturer; and,
i. the name, position, and signature of the responsible person who has been authorized to complete the Declaration of Conformity on behalf of the manufacturer.

4) Quality System Certificates:

a. A valid Good Manufacturing Practice Certificate issued by the Competent National Regulatory Authority should, at least, bear the name of manufacturer, address, medical device name, device category, and class. (OR).
b. Valid quality system (ISO 13485) or conformity assessment certificates issued by a recognized certifying authority. The certificate should be valid.

Quality Management System certificates or GMP certificates are to be provided for the design and manufacturing sites (including contract manufacturers). This requirement does not apply to component manufacturers (for example, contract manufacturers of PCB boards) except in cases where the components are part of a medical device system (e.g. contract manufacturers for the femoral stem and acetabular cups of a hip implant system).

5) Free sale certificate:

A confirmatory letter issued by the Competent National Regulatory Authority, which indicates the name(s) of the device(s) (with model if applicable) and explains whether the products are freely sold in the country of origin should be provided; if not, the reasons thereof should be clearly stated with appropriate

justification.

6) Product certificate, if applicable:
Product specific certificates, issued by SRA or WHO if the registration is eligible for abridged registration

7) Manufacturing Process
The following information should be provided about the manufacturer of the product:

a. Name of the manufacturer;
b. Complete address, including telephone number, e-mail, and website;
c. Background information, including year of establishment, development since establishment, capital, total work force, organogram, and subsidiaries (if any); and,
d. Quality control and quality management system, including quality control and general quality management system of source and authorization of raw materials, component handling, packaging, release, recall procedures, and handling of compliance and out of specifications.
e. Information on the manufacturing process should be provided in sufficient detail to allow a general understanding of the manufacturing processes. Detailed proprietary information on the manufacturing process is not required. The information may be presented in the form of a process flow chart showing an overview of production, controls, assembly, final product testing and packaging of the finished medical device. If the manufacturing process is carried out at multiple sites, the manufacturing activities carried out at each site should be clearly identified. For example:
    i. if the manufacturing process of a product consists of a number of sub- assembly processes, the manufacturing sites where each of these sub- assembly processes are carried out must be identified, and the relationship between these processes must be shown; or
    ii. if multiple sites manufacture the same product, each of these sites must be identified.

8) List of Configurations and/or components

9) Sample of Actual Product
Where applicable, a sample of actual products may be requested for the purpose of visual confirmation and/or for the purpose of laboratory testing or analytical performance evaluation of the device. Also, a sample specimen of the packaging materials may be requested, when applicable. Else, Colour scan of packaging is also accepted.

10) Price structure of the product

Part 2: Technical Document Requirements

1) Full Registration

For class B, C and D products applied through the full route of registration, the following are the required information:

a. Executive Summary

An executive summary shall be provided with the following information:

i. an overview, e.g., introductory descriptive information on the medical device.
ii. Intended use
iii. Indications
iv. Instructions of use
v. Contraindications
vi. Warnings
vii. Precautions
viii. Potential adverse effects
ix. Shelf life.
x. any additional important safety/performance related information.

b. Relevant Essential Principles and Method Used to Demonstrate Conformity

The manufacturer should identify the Essential Principles of Safety and Performance of Medical Devices that are applicable to the device. The manufacturer should identify the general method used to demonstrate conformity to each applicable Essential Principle. The methods that may be used include compliance with recognized or other standards, state of the art or internal industry methods, comparisons to other similar marketed devices, etc. It should identify the specific documents related to the method used to demonstrate conformity to the Essential Principles.

c. Essential Principles and Evidence of Conformity:

i. The evidence of conformity can be provided in tabular form with supporting documentation available for review as required. Templates for the essential principles conformity checklist are included in the Annexure 6. Not all the essential principles will apply to all devices and it is for the manufacturer of the device to assess which are appropriate for his particular device product. In determining this, account must be taken of the intended purpose of the device.

ii. Essential Principle checklist is applicable only to class C and D medical devices.

iii. In case of conformity assessment carried out by notified Conformity assessment body, evidence of conformity assessment report should be submitted. Evidence of conformity as per the Essential Principle checklist is not required in this case.

d. Device Description

i. Device description and features

The following information shall be submitted to meet the requirements of this section:

a) A complete description of the medical device and a description or complete list of the various configurations. This will include labeled pictorial representation clearly indicating key parts/components, including sufficient explanation to understand the drawings and diagrams if applicable;
b) A complete description of the key functional elements including its formulation, composition, functionality and connectivity capabilities if applicable;
c) Principles of operation or mode of action;
d) Risk class and applicable classification rule for the medical device as per GHTF;
e) A description of the accessories, other medical devices and other products that are not medical devices, which are intended to be used in combination with the medical devices.
f) An explanation of any novel features.

ii. Materials

The following information shall be submitted to meet the requirements of this section:

a) List of materials of the medical device making either direct or indirect contact with a human body;
b) Complete chemical, biological and physical characterization of the materials;
c) Where there are specific concerns related to the safety of materials used in the medical device, additional information to address these safety concerns shall be provided.

e. Performance Data/ Report or Certificate of Analysis

The functional characteristics and technical performance specifications for the device including, as relevant data summaries or tests reports and evaluations would typically cover, as appropriate to the complexity and risk class of the medical device:

i. Accuracy
ii. Clinical Sensitivity and/or Analytical Sensitivity if applicable
iii. Clinical Specificity and/or Analytical Sensitivity of measuring and diagnostic medical devices.
iv. reliability and other factors;
v. Biocompatibility Category of Finished product (If applicable)
vi. engineering tests;
vii. laboratory tests;
viii. simulated use;
ix. software validation.
x. and other specifications including chemical, physical, electrical, mechanical, biological, software, sterility, stability, storage and transport, and packaging to the extent necessary to demonstrate conformity with the relevant standards.

Note: The related standards adopted for specifications must be clearly mentioned in the dossier.

f. Clinical Evidence

This section should indicate how any applicable requirements of the Essential Principles for clinical evaluation of the device have been met. Where applicable, this evaluation may take the form of a systematic review of existing bibliography, clinical experience with the same or similar medical devices, or by clinical investigation. Clinical investigation is most likely to be needed for higher risk class medical devices, or for medical devices where there is little or no clinical experience.

Clinical evidence is not applicable for Class B medical devices.

g. Device Labeling

This is the descriptive and informational product literature that accompanies the device any time while it is held for sale or shipped. This section should summarize or reference or contain the following labelling data to the extent appropriate to the complexity and risk class of the device, which is generally considered as "labelling":

i. Labels on the device and its packaging;
ii. Instructions for use;
iii. Physician's manual
iv. Any information and instructions given to the patient, including instructions for any procedure the patient is expected to perform (if applicable).

The labels on the medical device and its packaging are to be provided for the primary and secondary levels of packaging and shall be provided in the original colour. The labels can be provided in the form of artwork. Labels provided must be in English. Labels must be provided for all the components of a medical device system, members of a medical device family and accessories submitted for registration. Alternatively, a representative label may be submitted for variants, provided the variable fields on the artwork are annotated, and the range of values for the variable fields are indicated.If it is physically impossible to include samples of labels (e.g. large warning labels affixed onto an X-ray machine), alternative submission methods (e.g. photographs or technical drawings), to the extent appropriate, will suffice to meet the requirements of this section.

h. Risk Analysis

Information required in this section is to be provided in the form of a risk management report. It is recommended that the risk management activities be conducted according to recognized standards. A risk management report will contain details of the risk analysis, risk evaluation, risk control conducted for the medical device. The risks and benefits associated with the use of the medical device should be described.

2) Abridged Registration

For class B, C and D products applied through the abridged route of registration, following documents are to be submitted in the dossier along with documents stated in part 1 of section C:

a. Evidence to support abridged registration
b. Device Description(components, indication, intended use, shelf life)
c. Certificate of analysis or performance report
d. Declaration of conformity
e. Specimen of package, proposed label and IFU

Section D: Renewal and Post Registration Changes

1) Renewal of Registration:

a. The process flow for the renewal will be the same as initial registration.
b. One time renewal shall be granted provided all the specifications of the product remain same as the registered product.
c. Validity of renewal certificate shall be for 3 years from the date of re-registration.
d. Application for renewal shall be submitted as per Annexure 3 within 90 calendar days before the expiry date of registration along with the processing fee.
e. A grace period of 30 working days may be given if the current MAH provides a written justification with evidence of having carried out the renewal process with the manufacturers prior to the date of expiry.
f. Upon the completion of the grace period or failure to provide the evidence of having carried out the renewal process, the product registration shall be canceled.
g. Following documents are required for renewal:
    i. Declaration Letter from the company stating that there is no change in all aspects of the registered product.
    ii. A copy of initial registration certificate
    iii. Specimen of package, label and insert where applicable
    iv. Product Sample where applicable
    v. ISO/ GMP certificate if the certificate has expired.

2) Product Registration Transfer

a. Following documents are required for product registration transfer:
    i. An application to transfer the marketing authorization of a product shall be submitted along with the product certificate.
    ii. The marketing authorization of the registered product may be transferred if the manufacturer authorizes a new MAH when the registered product has a remaining validity of at least one month.
b. Following are the documents required for transfer of MAH:
    i. An original letter of authorization from the principal manufacturer to the new MAH specifying the name of the product.
    ii. No Objection Certificate/letter from the current MAH. If, without any justifiable reason, the existing market authorization holder refuses to give a No Objection Certificate/letter within 15 working days, the Authority may approve the transfer based on the letter of authorization from the manufacturer.

3) Post-approval variation

a. The Authority must be notified of any changes to the product's quality, safety and effectiveness/efficacy of the medical device.
b. The applicant may apply for any post approval variations during the valid period of registration in form as per Annexure 4.
c. A safety declaration must be submitted as per Annexure 7.
d. All the supporting documents must be submitted along with the registration certificate
e. Evidence of status of Proposed Change in WHO/ WHO Recognized SRA for products registered through Abridged registration
f. Changes in respect of following shall be considered as post-approval variation:
    i. name of the product.

ii. material of construction;
iii. pack size
iv. design which shall affect quality in respect of its specifications, indication for use;
v. performance and stability of the medical device;
vi. the intended use or indication for use ;
vii. the method of sterilization;
viii. the approved Shelf life;
ix. the name or address of the domestic manufacturer or its manufacturing site;
x. overseas manufacturer or its manufacturing site ;
xi. Insert, Manual, label excluding change in font size, font type, color, label design;
xii. product Labeling due to Safety Updates
xiii. manufacturing process, equipment or testing which shall affect quality of the device;
xiv. packaging material.

Note: All the documentary evidences must be submitted with the application for post approval variation. The documents would be evaluated based on the evidences.

Table 7: Document requirements for post approval variation

Sl. No	**Type of Post approval variation**	**Conditions to be fulfilled**	**Documents Required** *(tick if the document is submitted, cross if any document is missing)*
1	Change in product name	There is no change to the product (shelf-life specifications, manufacturing source and process etc.) except for the product name change.	1. Official letter from principal manufacturer requesting for the change of product name. 2. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change along with safety declaration. 3. Revised draft package insert and label incorporating the proposed variation. 4. Updated GMP or ISO 13485 (where applicable). 5. Product Sample with proposed name (where applicable)
2	Change in material of constructions	There is no change to the product (shelf-life specifications, manufacturing source and process etc.) except for the above specified change	1. Justification for proposed change (by manufacturer). 2. Current approved materials used (Signed by Production Manager and/or Quality Manager) 3. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change along with safety declaration. 4. Product Sample with proposed change (where applicable) 5. Certificate of analysis for the finished product.

			6. Price structure
3	Change of pack size or dimension of container or closure.	1. Shelf-life specifications of the finished product remain unchanged. 2. The new size is consistent with duration of use as approved in the package insert. 3. The change only concerns the same packaging type and material.	1. Justification for the proposed pack size (by manufacturer) 2. Revised drafts of the package insert and labeling incorporating the proposed changes 3. Price structure for the new pack. 4. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change along with safety declaration. 5. Certificate of analysis for the finished product. 6. Product Sample with proposed change (where applicable)
4	Design which shall affect quality in respect of its specifications, indication for use;	1. No other changes except for the change specified.	1. Justification for the proposed change (by manufacturer) 2. Revised drafts of the package insert manual and labeling incorporating the proposed changes (where applicable). 3. Design verification and validation reports. 4. Approval obtained from the production manager and/or quality manager of the firm in regards to change. 5. Price structure. 6. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change along with safety declaration. 7. Certificate of analysis for the finished product. 8. Product Sample with proposed change (where applicable)
5	Performance and stability of the medical device;	1. No other changes except for the change specified.	1. Justification for the proposed change (by manufacturer) 2. Performance Report of the medical devices 3. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change along with safety declaration. 4. Price structure.
6	The change in intended use or indication for use ;	1. No other changes except for the change specified.	1. Justification for the proposed change (by manufacturer) 2. Performance Report of the medical

			devices. 3. Approved Indication or intended use. 4. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change along with safety declaration. 5. Price structure.
7	Method of Sterilization	1. No other changes except for the change specified.	1. Justification for the proposed change (by manufacturer) 2. Performance Report/ Certificate of Analysis of the medical devices. 3. Approved Method of sterilization 4. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change along with safety declaration. 5. Price structure.
8	Change in any part of the (primary, secondary) packaging material	1. No other changes except for the change specified.	1. Information and data on package and label. 2. Revised drafts of the package insert and labeling incorporating the proposed variation (where applicable). 3. Letter of declaration from the manufacturer and MAH stating that no other changes except for the intended change along with safety declaration. 4. Price Structure, if applicable 5. Product sample (where applicable)
9	Reduction/Increase of shelf-life of the finished product.	1. No other changes except for the change specified.	1. Justification letter for the change of shelf life of the finished product (by manufacturer) 2. Revised drafts of the package insert and labeling incorporating the proposed variation (where applicable). 3. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change. 4. Price structure
10	The name or address of the domestic manufacturer or its manufacturing site or	1. No other changes except for the change specified.	1. Official letter from the manufacturer requesting for the change in name/address of the plant. 2. A valid GMP certificate or quality system certificate which covers the GMP certification or official document from relevant authority

	overseas manufacturer or its manufacturing site		confirming the new name and/or address. 3. Revised drafts of the package insert and labeling incorporating the proposed variation (where applicable). 4. Contract agreement between the principle manufacturer and contract manufacturer(if applicable) 5. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change. 6. Product sample (where applicable) 7. Price Structure.
11	Insert, Manual, label excluding change in font size, font type, color, label design;	1. No other changes except for the change specified.	1. Justification for the proposed pack size. 2. Revised drafts of the package insert and labeling incorporating the proposed changes. 3. Price structure. 4. Information and data on package and label. 5. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change along with safety declaration. 6. Certificate of analysis for the finished product. 7. Product Sample with proposed change (where applicable)
12	Change of Product Labeling due to Safety Updates	The change relates to tightening of the product's target-patient population - The change is an addition of warnings, precautions, contraindications or adverse events/effects to the approved product labels	1. Official letter stating: (a) the reasons for the notification, AND, (b) the status of the proposed changes in other countries; 2. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change and that the changes are supported by data 3. Product Sample with proposed change (where applicable) 4. Price structure
13	Change in manufacturing process, equipment or testing which shall affect quality of	No other changes except for the change specified.	1. Justification for the proposed pack size. 2. Detailed manufacturing process. 3. Test procedures adopted. 4. Validation and vendor qualification of equipment.

	the device;		5. Calibration report on equipment. 6. Letter of declaration from the manufacturer and MAH stating that no other changes on the label except for the intended change and that the changes are supported by data along with safety declaration. 7. Price structure

Annexure 1: Application form for full registration of medical device

APPLICATION FOR FULL REGISTRATION OF MEDICAL DEVICE

M/s ……..……hereby applies for registration of the medical device specified below for sale/distribution in Bhutan.

Product Name	Pack Size	Material of construction/composition	Manufacturer

Medical Device Classification:

Medical Device group:

Note: Attach all the required documents stated in the guidelines for registration of medical devices.

Declaration (please tick the boxes):

□ I hereby declare that the documents /information provided in the document is true to my knowledge and will be liable for any consequences if any information provided is proved to be false or misleading.

□ I declare that I have read the regulation and I am fully aware that my application may be rejected if I do not fulfill the conditions or contravene the provision(s) of the act and regulations made there under.

□ If my application is granted, I shall abide by the Medicines Act and Regulations and any other standards set by the Authority.

Dated Signature of applicant
with name and contact No.

Annexure 2: Application form for abridge registration of medical device

APPLICATION FOR ABRIDGE REGISTRATION OF MEDICAL DEVICE

M/s……....hereby applies for abridged registration of the medical device specified below for sale/distribution in Bhutan.

Basis for Abridge registration (tick whichever applicable)

□ The product is WHO prequalified
□ The product has obtained at least one regulatory agency approval from WHO recognized SRAs

Name of the NRA(s) where the product is approved: .....

Product Name	Pack Size	Material of construction/composition	Manufacturer

Medical Device Classification:

Medical Device group:

Note: Attach all the required documents stated in the guidelines for registration of medical devices

Declaration (please tick the boxes):

□ I hereby declare that the documents and information submitted is true to my knowledge and will be liable for any consequences if any information provided is proved to be false or misleading.

□I declare that I have read the regulation and I am fully aware that my application may be rejected if I do not fulfill the conditions or contravene the provision(s) of the act and regulations made there under.

□If my application is granted, I shall abide by the Medicines Act and Regulations and any other standards set by the Authority.

Dated Signature of applicant
with name and contact No.

Annexure 3: Application form for renewal of registration of medical device

APPLICATION FOR RENEWAL OF REGISTRATION OF MEDICAL DEVICE

M/s……....hereby applies for renewal of registration of the medical device specified below for sale/distribution in Bhutan.

Product Registration no:

Name of the product:

Date of Expiry of the Registration:

Product Name	Pack Size	Material of construction/composition	Manufacturer

Medical Device Classification:

Medical Device group:

Note: Attach all the required documents stated in the guidelines for registration of medical devices.

Declaration (please tick the boxes):

□I hereby declare the documents and information submitted is true to my knowledge and will be liable for any consequences if any information provided is proved to be false or misleading.

□I declare that I have read the regulation and I am fully aware that my application may be rejected if I do not fulfill the conditions or contravene the provision(s) of the act and regulations made there under.

□If my application is granted, I shall abide by the Medicines Act and Regulations and any other standards set by the Authority.

Dated Signature of applicant
with name and contact No

Annexure 4: Application form for post approval variation of medical device

APPLICATION FOR POST APPROVAL VARIATION OF MEDICAL DEVICE

M/s……...hereby applies for Post approval variation of the medical device specified below for sale/distribution in Bhutan.

Product Registration no:

Name of the product:

Date of Expiry of the Registration:

Sl. No	Current Specification or details	Proposed Change	Reason for Change
1			
2			

Note: Attach all the required documents stated in the guidelines for registration of medical devices.

Declaration (please tick the boxes):

☐I hereby declare that the documents submitted above/all information provided in the document above is true to my knowledge and will be liable for any consequences if any information provided is proved to be false or misleading.

☐I declare that I have read the regulation and I am fully aware that my application may be rejected if I do not fulfill the conditions or contravene the provision(s) of the act and regulations made there under.

☐If my application is granted, I shall abide by the Medicines Act and Regulations and any other standards set by the Authority.

Dated Signature of applicant
with name and contact No

Annexure 5: Letter of Authorization Template

[To be printed on Company Letterhead of Product Owner]

Drug Regulatory Authority

Kawangjangsa, Thimphu

Bhutan

[Date]

Dear Sir/Madam,

Subject: Letter of Authorisation for *[name of Firm(Company Name)]*

We, *[name of Product Owner (Company Name)]*, as the Product Owner, hereby authorize *[name of Registrant (Firm Name and proprietor name)]*, as the Registrant to prepare and submit applications for the evaluation and registration of medical devices to the Drug Regulatory Authority on our behalf.

This authorization shall apply to the following medical devices:

[List containing product names of medical devices]

We also authorize *[name of Registrant (Firm Name)]* to make declarations and to submit documents on our behalf, regarding the above medical devices, in support of this application. These declarations and submissions are made pursuant to the requirements set in the guidelines for registration of medical devices and any other applicable laws that may also be in force.

This authorization shall remain in effect until *DD/MM//YYYY*

We undertake to provide post-market support and assistance to the Registrant as may be required in relation to any matter involving the above medical devices.We acknowledge that any non-compliance with any registration condition issued by the Drug Regulatory Authority in relation to medical devices may result in the suspension or cancellation of the medical device registration.

We agree to assist the Drug Regulatory Authority with any request for information on the above medical devices.

Yours Sincerely,

[Signature]

[Full Name and Title of Senior Company Official]
[Name, contact details and address of company]

Annexure 6: Essential Principle Checklist

EP Checklist control number:

Product Owner Name:

Product Name:

No.	Essential Principles – General requirements	**Applicable to the device?**	**Method of Conformity**	**Identity of Specific Documents**
1.	Medical devices should be designed and manufactured in such a way that, when used under the conditions and for the purposes intended and, where applicable, by virtue of the technical knowledge, experience, education or training of intended users, they will not compromise the clinical condition or the safety of patients, or the safety and health of users or, where applicable, other persons, provided that any risks which may be associated with their use constitute acceptable risks when weighed against the benefits to the patient and are compatible with a high level of protection of health and safety.			

2.	The solutions adopted by the product owner for the design and manufacture of the devices should conform to safety principles, taking account of the generally acknowledged state of the art. When risk reduction is required, the product owner should control the risk(s) so that the residual risk(s) associated with each hazard is judged acceptable. The product owner should apply the following principles in the priority order listed: • identify known or foreseeable hazards and estimate the associated risks arising from the intended use and foreseeable misuse, • eliminate risks as far as reasonably practicable through inherently safe design and manufacture, • reduce as far as is reasonably practicable the remaining risks by taking adequate protection measures, including alarms, • inform users of any residual risks.			
3.	Devices should achieve the performance intended by the product owner and be designed, manufactured and packaged in such a way that they are suitable for one or more of the functions within the scope of the definition of a medical device.			

4.	The characteristics and performances referred to in Clauses 1, 2 and 3 should not be adversely affected to such a degree that the health or safety of the patient or the user and, where applicable, of other persons are compromised during the lifetime of the device, as indicated by the product owner, when the device is subjected to the stresses which can occur during normal conditions of use and has been properly maintained in accordance with the product owner's instructions.			
5.	The devices should be designed, manufactured and packed in such a way that their characteristics and performances during their intended use will not be adversely affected under transport and storage conditions (for example, fluctuations of temperature and humidity) taking account of the instructions and information provided by the product owner.			
6.	The benefits must be determined to outweigh any undesirable side effects for the performances intended.			
7.	Every medical device requires clinical evidence, appropriate for the use and classification of the device, demonstrating that the device complies with the applicable provisions of the essential principles. A clinical evaluation should be conducted.			

Essential Principles – Design and Manufacturing Requirements				
8.1	The devices should be designed and manufactured in such a way as to ensure the characteristics and performance referred to in Clauses 1 to 6 of the 'General Requirements'. Particular attention should be paid to: • the choice of materials used, particularly as regards toxicity and, where appropriate, flammability, • the compatibility between the materials used and biological tissues, cells, body fluids, and specimens, taking account of the intended purpose of the device,			
8.2	The devices should be designed, manufactured and packed in such a way as to minimize the risk posed by contaminants and residues to the persons involved in the transport, storage and use of the devices and to patients, taking account of the intended purpose of the product. Particular attention should be paid to tissues exposed and to the duration and frequency of exposure.			

8.3	The devices should be designed and manufactured in such a way that they can be used safely with the materials, substances and gases with which they enter into contact during their normal use or during routine procedures; if the devices are intended to administer medicinal products they should be designed and manufactured in such a way as to be compatible with the medicinal products concerned according to the provisions and restrictions governing these products and that their performance is maintained in accordance with the intended use.			
8.4	Where a device incorporates, as an integral part, a substance which, if used separately, may be considered to be a medicinal product/drug as defined in the relevant legislation that applies and which is liable to act upon the body with action ancillary to that of the device, the safety, quality and usefulness of the substance should be verified, taking account of the intended purpose of the device.			
8.5	The devices should be designed and manufactured in such a way as to reduce as far as reasonably practicable and appropriate the risks posed by substances that may leach or leak from the device.			

8.6	Devices should be designed and manufactured in such a way as to reduce as far as reasonably practicable and appropriate risks posed by the unintentional ingress or egress of substances into or from the device taking into account the device and the nature of the environment in which it is intended to be used.			
9.1	The devices and manufacturing processes should be designed in such a way as to eliminate or to reduce as far as reasonably practicable and appropriate the risk of infection to patients, users and, where applicable, other persons. The design should: • allow easy handling, • reduce as far as reasonably practicable and appropriate any microbial leakage from the device and/or microbial exposure during use, • prevent microbial contamination of the device, or specimen where applicable, by the patient, user or other person.			
9.2	Where a device incorporates substances of biological origin, the risk of infection must be reduced as far as reasonably practicable and appropriate by selecting appropriate sources, donors and substances and by using, as appropriate, validated inactivation, conservation, test and control procedures.			

9.3	Products incorporating non-viable tissues, cells and substances of animal origin falling within the definition of a medical device, should originate from animals that have been subjected to veterinary controls and surveillance adapted to the intended use of the tissues. The product owner is required to retain information on the geographical origin of the animals. Processing, preservation, testing and handling of tissues, cells and substances of animal origin should be carried out so as to provide optimal safety. In particular, safety with regard to viruses and other transmissible agents should be addressed by implementation of validated methods of elimination or inactivation in the course of the manufacturing process.			
9.4	For products incorporating cells, tissues and derivatives of microbial or recombinant origin falling within the definition of a medical device, the selection of sources/donors, the processing, preservation, testing and handling of cells, tissues and derivatives of such origin should be carried out so as to provide optimal safety. In particular, safety with regard to viruses and other transmissible agents should be addressed by implementation of validated methods of elimination or inactivation in the course of the manufacturing process.			

9.5	For products incorporating non-viable human tissues, cells and substances falling within the definition of a medical device, the selection of sources, donors and/or substances of human origin, the processing, preservation, testing and handling of tissues, cells and substances of such origin should be carried out so as to provide optimal safety. In particular, safety with regard to viruses and other transmissible agents should be addressed by implementation of validated methods of elimination or inactivation in the course of the manufacturing process.			
9.6	Devices labelled as having a special microbiological state should be designed, manufactured and packed to ensure they remain so when placed on the market and remain so under the transport and storage conditions specified by the product owner.			
9.7	Devices delivered in a sterile state should be designed, manufactured and packed in a non-reusable pack, and/or according to appropriate procedures, to ensure that they are sterile when placed on the market and remain sterile, under the transport and storage conditions indicated by the product owner, until the protective packaging is damaged or opened.			

9.8	Devices labelled either as sterile or as having a special microbiological state should have been processed, manufactured and, if applicable, sterilised by appropriate, validated methods.			
9.9	Devices intended to be sterilised should be manufactured in appropriately controlled (e.g. environmental) conditions.			
9.10	Packaging systems for non-sterile devices should keep the product without deterioration at the level of cleanliness stipulated and, if the devices are to be sterilised prior to use, minimise the risk of microbial contamination; the packaging system should be suitable taking account of the method of sterilisation indicated by the product owner.			
9.11	The packaging and/or label of the device should distinguish between identical or similar products placed on the market in both sterile and non-sterile condition.			
10.1	If the device is intended for use in combination with other devices or equipment, the whole combination, including the connection system should be safe and should not impair the specified performance of the devices. Any restrictions on use applying to such combinations should be indicated on the label and/or in the instructions for use.			

10.2	Devices should be designed and manufactured in such a way as to remove or reduce as far as reasonably practicable and appropriate: • the risk of injury, in connection with their physical features, including the volume/pressure ratio, dimensional and where appropriate ergonomic features; • risks connected with reasonably foreseeable external influences or environmental conditions, such as magnetic fields, external electrical and electromagnetic effects, electrostatic discharge, pressure, humidity, temperature or variations in pressure and acceleration; • the risks connected to their use in conjunction with materials, substances and gases with which they may come into contact during normal conditions of use; • the risks of accidental penetration of substances into the device; • the risk of incorrect identification of specimens; • the risks of reciprocal interference with other devices normally used in the investigations or for the treatment given; • risks arising where maintenance or calibration are not possible (as with implants), from ageing of materials used or loss of accuracy of any measuring or control mechanism.			

10.3	Devices should be designed and manufactured in such a way as to minimise the risks of fire or explosion during normal use and in single fault condition. Particular attention should be paid to devices whose intended use includes exposure to or use in association with flammable substances or substances which could cause combustion.			
10.4	Devices must be designed and manufactured in such a way as to facilitate the safe disposal of any waste substances.			
11.1	Devices with a measuring function, where inaccuracy could have a significant adverse effect on the patient, should be designed and manufactured in such a way as to provide sufficient accuracy, precision and stability for their intended purpose of the device. The limits of accuracy should be indicated by the product owner.			
11.2	Diagnostic devices should be designed and manufactured in such a way as to provide sufficient accuracy, precision and stability for their intended use, based on appropriate scientific and technical methods. In particular the design should address sensitivity, specificity, trueness, repeatability, reproducibility, control of known relevant interference and limits of detection, as appropriate.			

11.3	Where the performance of devices depends on the use of calibrators and/or control materials, the traceability of values assigned to such calibrators and/or control materials should be assured through a quality management system.			
11.4	Any measurement, monitoring or display scale should be designed in line with ergonomic principles, taking account of the intended purpose of the device.			
11.5	Wherever possible values expressed numerically should be in commonly accepted, standardised units, and understood by the users of the device.			
12.1.1	Devices should be designed and manufactured and packaged in such a way that exposure of patients, users and other persons to any emitted radiation should be reduced as far as practicable and appropriate, compatible with the intended purpose, whilst not restricting the application of appropriate specified levels for therapeutic and diagnostic purposes.			

12.2.1	Where devices are designed to emit hazardous, or potentially hazardous, levels of visible and/or invisible radiation necessary for a specific medical purpose the benefit of which is considered to outweigh the risks inherent in the emission, it should be possible for the user to control the emissions. Such devices should be designed and manufactured to ensure reproducibility of relevant variable parameters within an acceptable tolerance.			
12.2.2	Where devices are intended to emit potentially hazardous, visible and/or invisible radiation, they should be fitted, where practicable, with visual displays and/or audible warnings of such emissions.			
12.3.1	Devices should be designed and manufactured in such a way that exposure of patients, users and other persons to the emission of unintended, stray or scattered radiation is reduced as far as practicable and appropriate.			
12.4.1	The operating instructions for devices emitting radiation should give detailed information as to the nature of the emitted radiation, means of protecting the patient and the user and on ways of avoiding misuse and of eliminating the risks inherent in installation.			

12.5.1	Devices intended to emit ionising radiation should be designed and manufactured in such a way as to ensure that, where practicable, the quantity, geometry and energy distribution (or quality) of radiation emitted can be varied and controlled taking into account the intended use.			
12.5.2	Devices emitting ionising radiation intended for diagnostic radiology should be designed and manufactured in such a way as to achieve appropriate image and/or output quality for the intended medical purpose whilst minimising radiation exposure of the patient and user.			
12.5.3	Devices emitting ionising radiation, intended for therapeutic radiology should be designed and manufactured in such a way as to enable reliable monitoring and control of the delivered dose, the beam type and energy and where appropriate the energy distribution of the radiation beam.			
13.1	Devices incorporating electronic programmable systems, including software, should be designed to ensure the repeatability, reliability and performance of these systems according to the intended use. In the event of a single fault condition in the system, appropriate means should be adopted to eliminate or reduce as far as practicable and appropriate consequent risks.			

13.2	Devices where the safety of the patients depends on an internal power supply should be equipped with a means of determining the state of the power supply.			
13.3	Devices where the safety of the patients depends on an external power supply should include an alarm system to signal any power failure.			
13.4	Devices intended to monitor one or more clinical parameters of a patient should be equipped with appropriate alarm systems to alert the user of situations which could lead to death or severe deterioration of the patient's state of health.			
13.5	Devices should be designed and manufactured in such a way as to reduce as far as practicable and appropriate the risks of creating electromagnetic interference which could impair the operation of this or other devices or equipment in the usual environment.			
13.6	Devices should be designed and manufactured in such a way as to provide an adequate level of intrinsic immunity to electromagnetic disturbance to enable them to operate as intended.			

13.7.1	Devices should be designed and manufactured in such a way as to avoid, as far as possible, the risk of accidental electric shocks during normal use and in single fault condition, provided the devices are installed and maintained as indicated by the product owner.			
14.1	Devices should be designed and manufactured in such a way as to protect the patient and user against mechanical risks connected with, for example, resistance to movement, instability and moving parts.			
14.2	Devices should be designed and manufactured in such a way as to reduce to the lowest practicable level the risks arising from vibration generated by the devices, taking account of technical progress and of the means available for limiting vibrations, particularly at source, unless the vibrations are part of the specified performance.			
14.3	Devices should be designed and manufactured in such a way as to reduce to the lowest practicable level the risks arising from the noise emitted, taking account of technical progress and of the means available to reduce noise, particularly at source, unless the noise emitted is part of the specified performance.			

14.4	Terminals and connectors to the electricity, gas or hydraulic and pneumatic energy supplies which the user has to handle should be designed and constructed in such a way as to minimise all possible risks.			
14.5	Accessible parts of the devices (excluding the parts or areas intended to supply heat or reach given temperatures) and their surroundings should not attain potentially dangerous temperatures under normal use.			
15.1	Devices for supplying the patient with energy or substances should be designed and constructed in such a way that the delivered amount can be set and maintained accurately enough to guarantee the safety of the patient and of the user.			
15.2	Devices should be fitted with the means of preventing and/or indicating any inadequacies in the delivered amount which could pose a danger. Devices should incorporate suitable means to prevent, as far as possible, the accidental release of dangerous levels of energy from an energy and/or substance source.			

15.3	The function of the controls and indicators should be clearly specified on the devices. Where a device bears instructions required for its operation or indicates operating or adjustment parameters by means of a visual system, such information should be understandable to the user and, as appropriate, the patient.			
16.1	Such devices should be designed and manufactured in such a way that they perform appropriately for their intended purpose taking into account the skills and the means available to users and the influence resulting from variation that can reasonably be anticipated in user's technique and environment. The information and instructions provided by the product owner should be easy for the user to understand and apply.			
16.2	Such devices should be designed and manufactured in such a way as to reduce as far as practicable the risk of use error in the handling of the device and, if applicable, the specimen, and also in the interpretation of results.			
16.3	Such devices should, where reasonably possible, include a procedure by which the user can verify that, at the time of use, that the product will perform as intended by the product owner.			

17.1	Users should be provided with the information needed to identify the product owner, to use the device safely and to ensure the intended performance, taking account of their training and knowledge. This information should be easily understood.			
18.1	Clinical investigations on human subjects should be carried out in accordance with the spirit of the Helsinki Declaration. This includes every step in the clinical investigation from first consideration of the need and justification of the study to publication of the results.			

EP Checklist prepared by (name/signature/date):

EP Checklist approved by (name/signature/date):

Annexure 7: Medical Device Safety and Performance Declaration Template

MEDICAL DEVICE SAFETY AND PERFORMANCE DECLARATION

[To be printed on Company Letterhead of the manufacturer]

Drug Controller

Drug Regulatory Authority

Thimphu, Bhutan

[Date]

Subject: Declaration of Medical Device Safety and Performance on Change Notification

Dear Sir/Madam,

I, on behalf of [company name], the manufacturer of the medical device(s) stated below, hereby declare that the medical device(s) in this change notification,

Conform(s) to the Essential Principles for Safety and Performance as per the statutory requirements of the Medicines Act of Kingdom of Bhutan, 2003 and Guidelines for registration of medical devices DRA-G-D1-MD-10.

This declaration shall apply to the following medical device(s*):[List containing medical devices names and registration number]*

I am aware that a false declaration is an offence and will result in the cancellation of registration of the above medical devices under Section 18 d) of the Medicines Act of Kingdom of Bhutan, 2003.

Yours Faithfully,

[Signature]

[Full Name and Title (Top Management Official)]

Annexure 8: List of Countries whose NRA is designated as SRA

The following is the list of the countries whose NRAs are designated as SRAs by WHO

1. Australia
2. Austria
3. Belgium
4. Bulgaria
5. Canada
6. Croatia
7. Cyprus
8. Czech Republic
9. Denmark
10. Estonia
11. Finland
12. France
13. Germany
14. Greece
15. Hungary
16. Iceland
17. Ireland
18. Italy
19. Japan
20. Latvia
21. Liechtenstein
22. Lithuania
23. Luxembourg
24. Malta
25. Netherlands
26. Poland
27. Portugal
28. Romania
29. Slovakia
30. Slovenia
31. Spain
32. Sweden
33. Switzerland
34. United Kingdom
35. United States of America
36. Norway

We commit to provide consistent regulatory operations with risk based planning and continual improvement in compliance with the recognized standards to meet our consumers' satisfaction and confidence.

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