

The Key to Keeping a Product on the Market

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Brief FDA History - Medical

Devices

- The FD&C Act of 1938: Extended control to therapeutic devices
 - No requirement for pre-market approval
 - Only if a defect was discovered after product in use
 - No way to prevent harmful or ineffective product to market
 - FDA to bear burden of proving product dangerous or fraudulent

Brief FDA History - Medical

Devices (Cont.)

Medical Device Amendments of 1976

- Classification of devices
- 510(k) Clearance and Pre-Market Approval (PMA)
- Registration and list
- First GMP Effective December 18, 1978 21 CFR 820
- Access to industry records



GMP Regulations

Manufacturer:

- Designs, manufactures, fabricates, assembles or processes a finished device
- Includes: contract sterilization, installation, relabeling, remanufacturing, repacking, or specification development & initial distributors of foreign entities

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GMP Regulations (Cont.)

- Finished Device
 - Any device or accessory to any device
 - Suitable for use
 - Capable of functioning
 - Whether or not packaged, labeled, or sterilized

GMP Regulations (Cont.)

- Finished devices intended to be commercially distributed for human use
- Manufactured, imported or offered for import in the US
- Establishes basic requirements for manufacturers of finished devices
- Exemptions: Class I, IDE, component manufacturers

Quality System Regulations OSR)

- Safe Medical Devices Act of 1990
- FDA authority to add pre-production Design **Controls to the GMP Regulation**
- Added new section to FD&C Act (803) which encourages FDA to work with foreign countries toward mutual recognition of GMP requirements
- Quality System Regulation replaces the previous GMPs.

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- Subpart A General Provisions
- §820.1 Scope: Provides general guidance on the implementation of quality systems for medical devices to ensure finished devices will be safe and effective.
- §820.3 Definitions.
- §820.5 Quality system: The broad requirements of the OSR are summarized in this section.

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Subpart B – Quality System Requirements

- §820.20 Management responsibility:
 - Management Representative
 - Management Review
 - Quality Planning
- §<u>820.22</u> Quality audit Establish procedures and conduct quality audits to assure the quality system is in compliance with the QSR.
- §820.25 Personnel

Ensure that personnel have training and experience for their responsibilities.

Subpart C--Design Controls

§<u>820.30</u>

- (b) <u>Design and development planning</u> Establish/maintain plans that describe design and development activities and define responsibilities for implementation.
- (c) <u>Design Input</u>- Ensure design requirements are appropriate for intended use, complete, documented and approved by appropriate individuals.
- (d) <u>Design Output-</u>Must be essential for proper functioning of the device and contain acceptance criteria, be documented, reviewed and approved prior to release.
- (e) <u>Design Review</u> Maintain procedures for formal documented design reviews that are planned and conducted at appropriate stages of design development.

Subpart C--Design Controls (Cont.)

- (f) <u>Design Verification</u> Establish procedures for verifying the device design; confirm design output meets design input requirements (e.g. QC testing).
- (g) <u>Design Validation</u> Perform validation on initial lots or batches and ensure devices conform to defined user needs and intended uses (e.g. clinical trial).
- (h) <u>Design Transfer</u> Establish/maintain procedures to ensure the design basis is correctly translated into production methods and procedures.
- (i) <u>Design Changes</u> Establish/maintain procedures for the identification, documentation, validation or where appropriate verification, review and approval of design changes before implementation.
- (j) <u>Design History File</u> Establish/maintain design history files for each type of device; Contain or reference records.

Subpart D – Document Controls

§820.40 – Document Controls

- Each manufacturer shall establish/ maintain procedures to control all documents that are required by this part.
- Document approval and distribution must be controlled.
- Changes to documents must be approved and documented.
- Records of all approvals and changes must be maintained.

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Subpart E – Purchasing Controls

§820.50 – Purchasing Controls

- Procedures must be established and maintained to ensure that all purchased or otherwise received product and services conform to specified requirements.
- Potential suppliers, contractors, and consultants must be evaluated and selected based on their ability to meet specified requirements; suppliers should be audited as needed.
- Suppliers must notify the manufacturer of changes in the product or service.

Subpart F – Identification and Traceability

- §<u>820.60</u> Identification: Procedures must be established and maintained for identifying product during all stages of receipt, production, distribution, and installation.
- §<u>820.65</u> Traceability: Each device intended for surgical implant, to support or sustain life, or that can be result in significant injury to the user shall be identified with a control number, and identified in the device history record.

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Subpart G – Production and Process Controls

- §<u>820.70</u> Production and Process Controls: Procedures are required for process changes, environmental control, personnel, contamination control, buildings, equipment, manufacturing material, automated processes.
- §<u>820.72</u> Inspection, measuring, and test equipment: Procedures are required for the control and calibration of the equipment.
- §820.75 Process validation: When the results of a process cannot be fully verified by subsequent inspection and testing, the process must be validated.

Subpart H – Acceptance Activities

- §820.80 Receiving, in-process, and finished device acceptance: Procedures must be implemented to ensure that material meets requirements at each stage.
- §820.86 Acceptance status: The status of product shall be identified to indicate the conformance or nonconformance of the items with acceptance criteria, to ensure that only products that are acceptable are distributed, used, or installed.

Subpart I – Nonconforming Product

§820.90 – Nonconforming Product

- Procedures shall address the identification, documentation, evaluation, segregation, and disposition of nonconforming product.
- The evaluation shall include determination of need for investigation and notification of those responsible for the nonconformance.
- Evaluation and investigation shall be documented.

Subpart J – Corrective and Preventive Action

§820.100 – Corrective and Preventive Action

- Detect causes of nonconformances to prevent recurrence.
- Identify failures in materials, processes, equipment, facilities, or training.
- Implement and record changes in methods and procedures.
- Verify or validate effectiveness of corrective and preventive actions.
- Identify any global implications.

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Subpart K – Labeling and Packaging Control

- §820.120 Device labeling: Procedures must be implemented to control label integrity, inspection, storage, and operations.
- §820.130 Device packaging: Device packaging and shipping containers must be designed and constructed to protect the device from alteration or damage.

Subpart L – Handling, Storage, Distribution, and Installation

- §820.140 Handling: Establish/maintain procedures to ensure that mix-ups, damage, deterioration, contamination or other adverse effects to product do not occur during handling.
- §<u>820.150</u>-Storage: Establish/maintain procedures for control of storage areas; facilitate proper stock rotation and assess its condition as appropriate.
- §820.160 Distribution: Establish/maintain procedures for control or distribution of finished goods to ensure only those devices approved for release are distributed.
- §820.170_Installation: Establish/maintain adequate installation and inspection instructions, and where appropriate, test procedures.

Subpart M - Records

- §<u>820.180</u> General requirements for storage of records.
- §820.181 Device master record: Records include specifications for the device, production process, quality assurance procedures and acceptance criteria, packaging and labeling, installation, maintenance, and servicing.
- §<u>820.184</u> Device history record: Records include date and quantity of manufacture, quantity released, acceptance records, labeling, and control numbers.

Subpart M - Records (Cont.)

- §820.186 Quality system record: Procedures and documentation of activities required by the QSR that are not specific to a particular type of device.
- §<u>820.198</u> Complaint files: Records include the name of the device, date of complaint, name and address of complainant, nature of the complaint, results of investigation (or reason for not investigating), corrective action, reply to complainant.

Subpart N - Servicing

§820.200 - Servicing

- Where servicing is required, procedures must be implemented for performing the servicing and for verifying that it meets specified requirements.
- Service reports need to be documented.
- Service reports that represent events reportable under the Medical Device Reporting requirements shall be recorded as complaints.

Subpart O – Statistical Techniques

§820.250 - Statistical Techniques

- Procedures are required for identifying valid statistical techniques required for establishing, controlling, and verifying acceptability of process capability and product characteristics.
- Sampling plans shall be based on a valid, statistical rationale, and be adequate for their intended use.

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For Further Information

- Inspection of Medical Device Manufacturers -Final Guidance for Industry and FDA
 - http://www.fda.gov/cdrh/comp/7382.845.html
- Medical Device Quality Systems Manual: A Small Entity Compliance Guide
 - http://www.fda.gov/cdrh/dsma/gmpman.html