

TURI CE Conference 13 November 2019

Presented by A.R. Cigliano

Straumann Manufacturing Inc
Andover, MA. USA

Agenda

- About Straumann
- A comprehensive product range
- About Andover
- Process Flow charts
- TUR Project

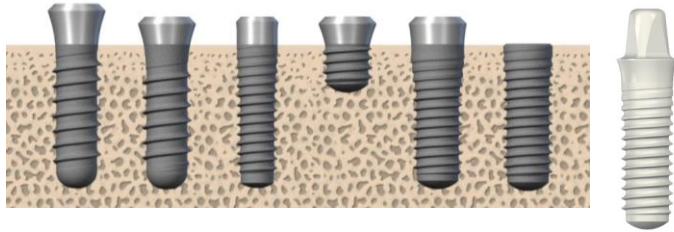
About Straumann



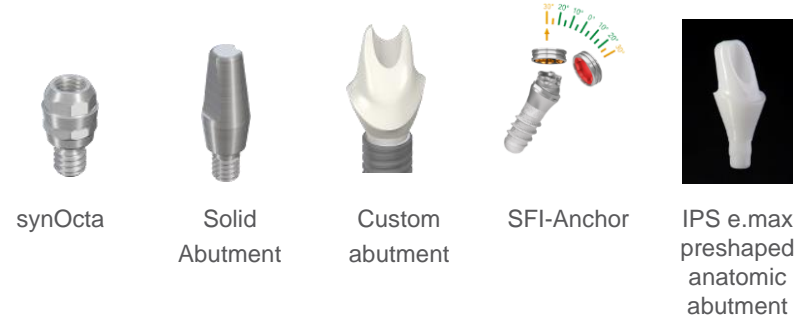
- A global leader in tooth replacement solutions including regenerative dentistry.
- Founded as a family owned research institute in 1954
- A pioneer of dental implants
- Headquarter in Basel, Switzerland
- Dental solutions available through a broad network of distribution subsidiaries and partners in:
 - North America, Latin America
 - Europe, Middle East, Africa
 - Asia/Pacific
- 6000+ employees from 30+ nations
- 1.5 Billion in annual revenue

A Comprehensive Product Range

Dental implants



Prosthetics



CADCAM



Precision milling



State-of-the-art materials



BoneCeramic



Emdogain

Biomaterials

About Straumann - Andover

- Two Straumann entities operating at this facility

Straumann Manufacturing
STUM

- Manufacturing
- Purchasing/Logistics
- Facilities
- Quality Assurance

Straumann Sales North America
STUS/SNAM

- Marketing
- Sales
- Customer Service
- Distribution
- Sales Training & Education
- Legal
- Human Resources
- Finance & IT
- Regulatory & Clinical

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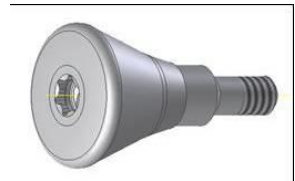
Typical Products Manufactured in Andover



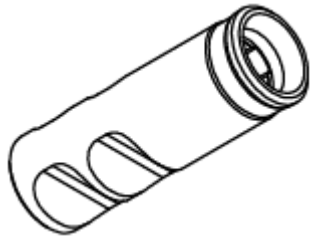
Implants



Abutments



Healing Abutments



Analogs



Healing Caps,
Closure Screws



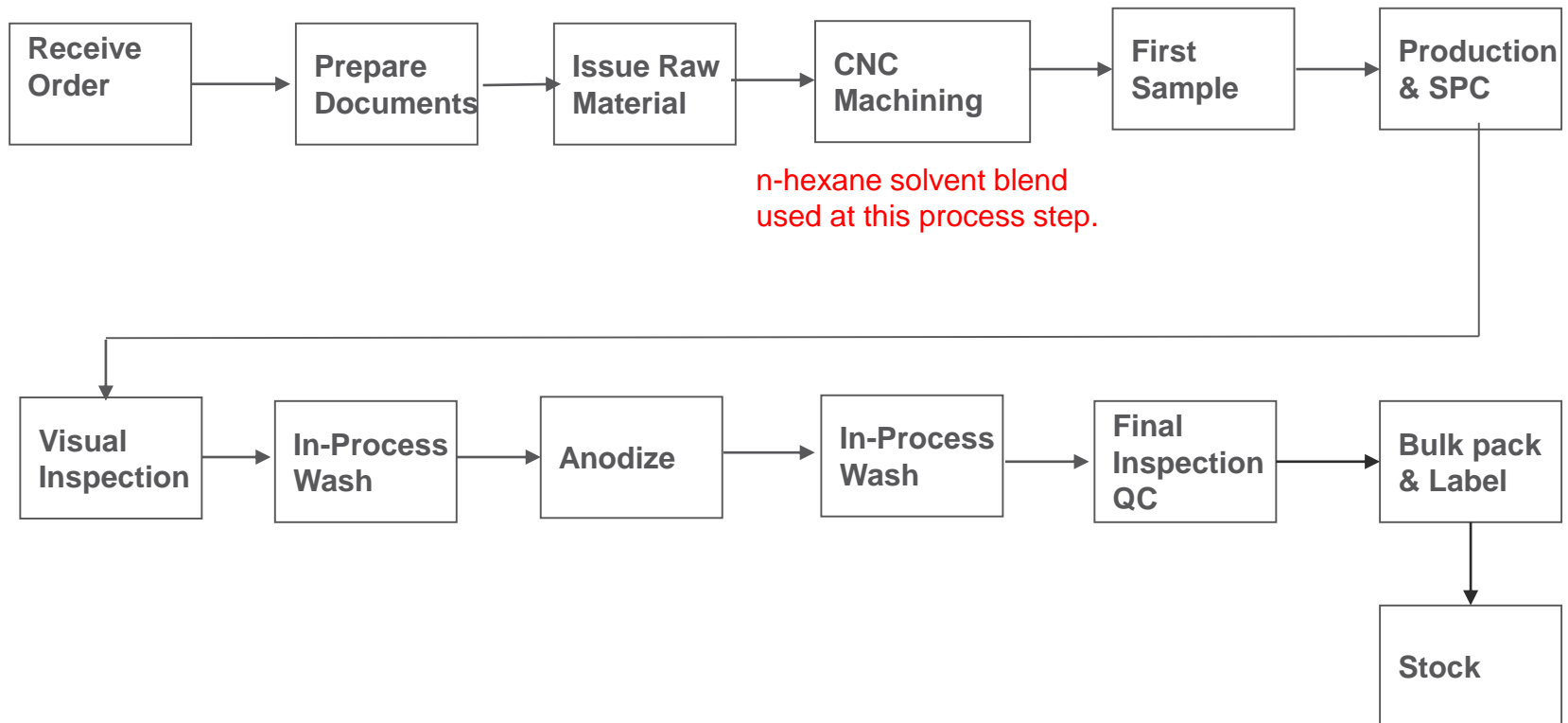
Transfer Components

Overview of Flowcharts from Manufacturing

- There are four basic process flows described below
 - Specific flowcharts are noted on subsequent pages
 - Semi-finished components
 - CNC machined parts that are either shipped to another Straumann facility for completion or packaged and converted to a Finished Good here.
 - Finished packaged products
 - Non-sterile Abutments, Healing Caps, Healing Abutments and Closure Screws.
 - Sterile Abutments, Healing Caps, Healing Abutments and Closure Screws.
 - Sterile Implants

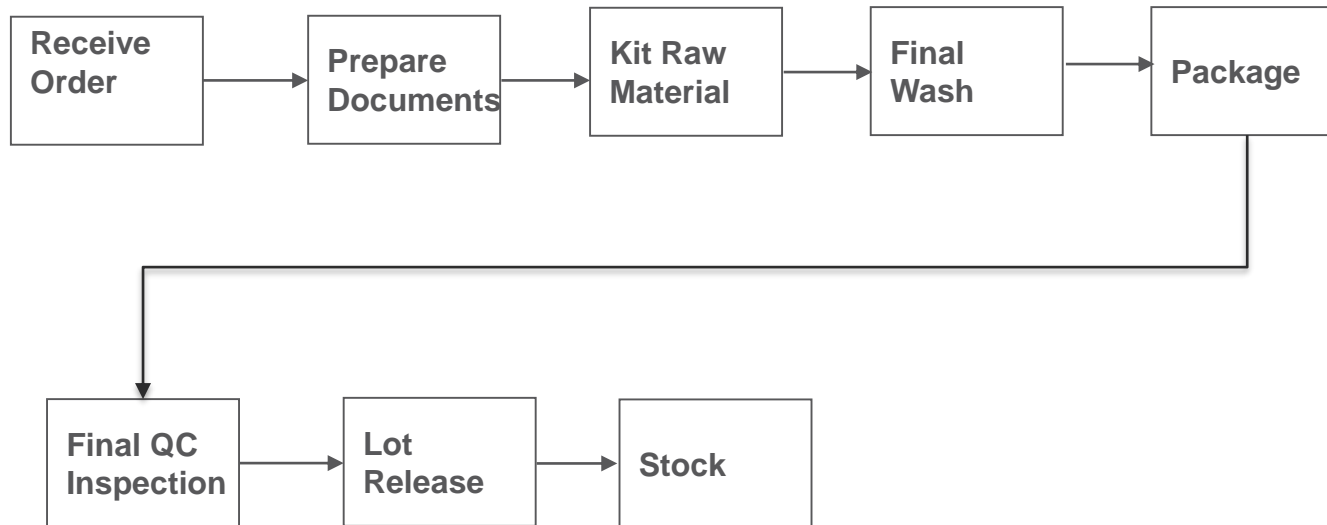
CNC machined parts sample process flow

Semi-finished components



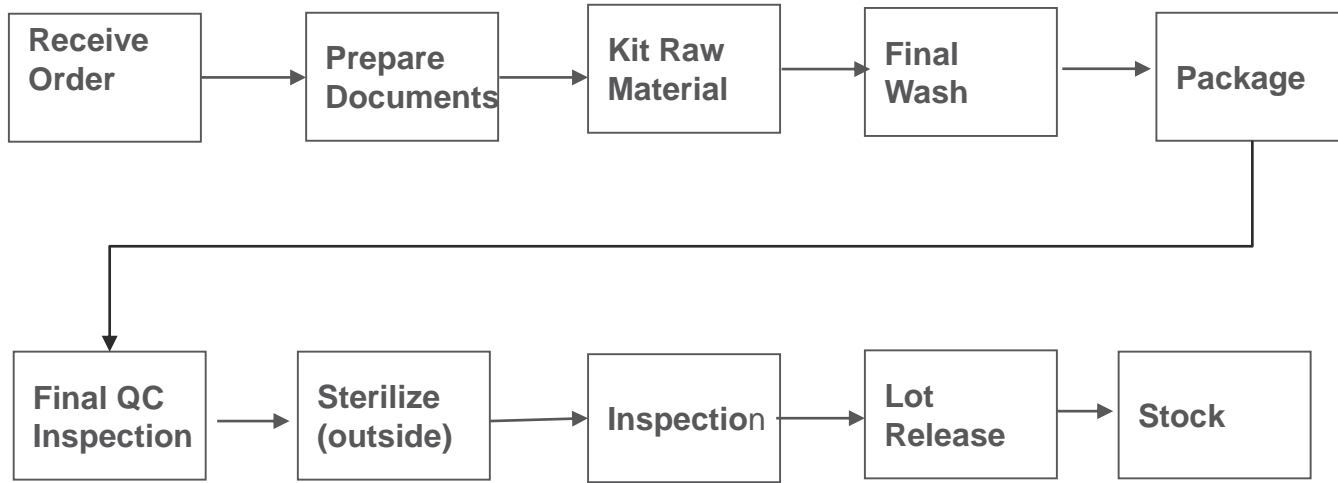
Non-sterile Abutments, Healing Caps, Healing Abutments and Closure Screws.

Finished Device Manufacturing Process



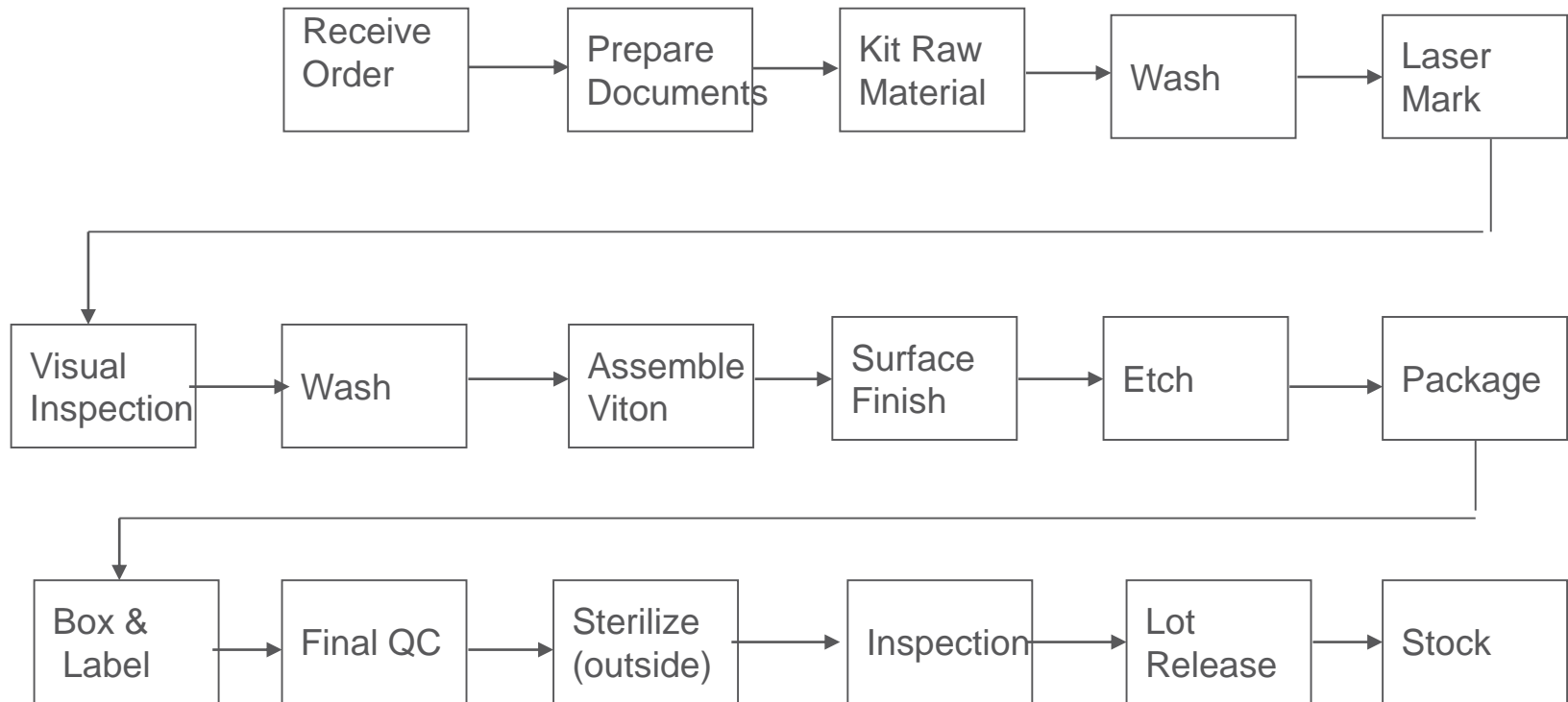
Sterile Abutments, Healing Caps, Healing Abutments and Closure Screws

Finished Device Manufacturing Process

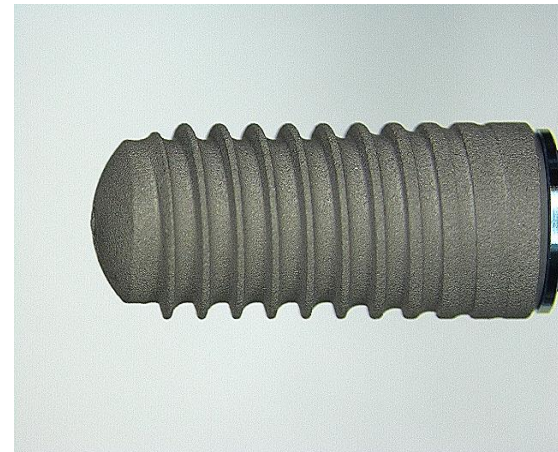
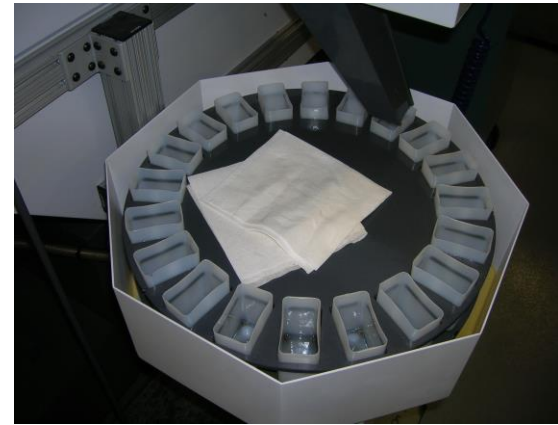


Sterile Implants Finished Goods

Finished Device Manufacturing Process



About Straumann - Andover



Toxics Use Reduction in Progress – Find a Drop in Substitute for the n-hexane blend used at the CNC Process

- CNC cleaning fluid performance criteria: a.) remove cutting oil residues from exterior and blind (threaded) holes b.) completely dry within 10 minutes to allow visual and dimensional inspection by humans or robots (100 % of parts produced, performed at the CNC process). 8 million +/- parts will be produced in 2019.
- Worked with MA Office of Technical Assistance and the Toxic Use Reduction Cleaning Lab at UMass Lowell to identify potential alternatives. Best fit - isopropyl acetate. Small scale production trial complete. Some operators complained of excessive “nail polish remover” odor, some unexpected residues found on complex part geometries (implants).
- A second production trial is planned (more machines).
- Also investigating a line of custom engineered (expensive) solvent degreasers offered by Zestron Americas (Manassas, VA).

