URGENT FIELD SAFETY NOTICE – PRECICE SYSTEM

Date: 01 Mar 2021

Commercial Name: Precice System, including the following marketed devices:

Precice System Devices, including: Precice Unyte, Precice Freedom, Precice Bone Transport, and Precice Stryde.

Type of Action: Advisory Notice and Voluntary Product Removal

NuVasive Specialized Orthopedics, Inc (NSO) voluntarily issues this Field Safety Notice (FSN) to inform healthcare providers of the following information:

Description of the Issue:

NSO is notifying that the products outlined in the commercial section above are not indicated for use in individuals under the age of 18 years old.

Also, this FSN intends to make users aware of the gaps in the biological assessments for these devices as outlined in ISO 10993-1:2018 *Biological Evaluation of Medical Device*. While ISO 10993-1:2018 allows for justification to the standard without additional testing, not all of these devices may meet that justification and are under assessment. Additional testing is ongoing and any relevant follow-up information will be communicated as appropriate.

Information Pertinent to Biological Safety:

These devices do not have the full complement of biological assessments as outlined in ISO 10993-1:2018 for all potential patients. The additional toxicological risk assessments being undertaken to close these gaps include carcinogenicity, chronic toxicity, developmental toxicity, and reproductive toxicity.

- Post-market data have not identified unexpected incidents related to biological safety with the Precice Unyte, Precice Freedom, or Precice Bone Transport systems.
- There have been several reports of adverse events potentially related to biological safety in one of the device families listed above (Precice Stryde). The events include reports of pain and bony abnormalities at the interface between the telescoping nail segments. The root cause has yet to be confirmed, though preliminary explant analyses suggest the issues are not of a biological safety origin.
- The generation of evidence, to bridge the current gaps are ongoing with expected completion in Q2 2021 for all NSO devices.

Information related to individuals under 18:

These devices are not indicated for use in individuals younger than 18 years of age.

- There are certain published literature[1,2] on the use of the Precice System devices in individuals under the age of 18 years.
- Updates to the IFU are being pursued to provide end-user clarity and will be communicated as appropriate.
- Assessments for developmental toxicity are underway with expected completion Q2 2021.

Overview of the Precice System of devices:

The Precice System of devices, collectively, is intended for limb lengthening, open and closed fracture fixation, pseudoarthrosis, mal-unions, non-unions, or bone transport of long bones. The Precice Freedom System is indicated for lengthening of the residual limb of the femur. The

References:

[1]Nasto LA, Coppa V, Riganti S, et al. Clinical results and complication rates of lower limb lengthening in pediatric patients using the PRECICE 2 intramedullary magnetic nail: a multicenter study. *J of Ped Orthop* 2020;29(6):611-7.

[2]Iliadis AD, Palloni V, Wright J, et al. Pediatric lower limb lengthening using the PRECICE nail: Our experience with 50 cases. *J of Ped Ortho* 2020;41(1):e44-e49.

Clinical Impact:

This notice is being done out of an abundance of caution as NSO completes:

- The additional testing related to biological safety and
- The additional assessments to those under 18 years of age.

These devices will not be available in the region until the assessments are completed. Patients who are currently between staged surgical interventions or along a continuum of treatment or care with the use of affected devices may be impacted. Clinicians responsible for care should consider alternative arrangements for treatment during this time and contact FSNprecice@nuvasive.com with any questions.

Recommended User Action:

- An NSO representative will be contacting your office or you to provide instructions for the return of any Precice System family devices.
- Do not implant Precice System family devices until further notice.
- Review, complete, sign and return the attached Consignee Confirmation Form accompanying this notification in accordance with the directions on the form.
- The Precice System family of devices will not be available until further notice.
- Prophylactic removal of functioning devices is not recommended. Instead, any treatment decisions should be made by the physician in consultation with the patient and/or family.
- For any patients, assessment of any symptoms, via consultation, and radiography should be made to determine if pain and abnormal bony changes might be present, as described above.
    - If so, then clinical care decisions should be made at the discretion of the healthcare team, in consultation with the patient and any other relevant decision makers.
- If a patient has been previously implanted with a listed device and was under the age of 18, consultation may be warranted, at the discretion of the provider.
- If a patient has been previously implanted with a listed device and is pregnant, becomes pregnant, or intends to become pregnant, consultation may be warranted, at the discretion of the provider.
- If a patient has currently undergone a definitive treatment in preparation for treatment specifically with a Precice System Family device (e.g., first stage surgery), please alert NSO immediately at FSNprecice@nuvasive.com
- Forward this notice to anyone in your facility that needs to be informed.
- Direct any additional manufacturer inquiries to FSNprecice@nuvasive.com
- Report to NSO any adverse effect or product complaints related to the use of these devices to FSNprecice@nuvasive.com, whether or not those adverse effects are related to this FSN.

As a reminder, the following guidelines should be considered in all Precice System family patients, according to the Instructions for Use (IFU), including, but not limited to:

- The IFU should be consulted on an ongoing basis before and throughout patient treatment with Precice products.
- The Precice family of devices are contraindicated in patients in which the Precice devices would cross joint spaces or open epiphyseal growth plates.

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- The Precice family of devices are contraindicated in patients unwilling or incapable of following postoperative care instructions.
- Precice System devices should be removed after an implantation period of no more than one year.
- Once the physician determines that the Freedom/Unyte/Stryde/Bone Transport System has achieved its intended use and is no longer required, it is removed using standard surgical techniques.
- The Precice System devices are either non-weight bearing or cannot withstand the full stresses of weight-bearing for tibia or femur applications. For humerus applications, patients should not bear any weight on the treated limb. Patients should utilize external support and/or restrict activities until consolidation occurs.
- The Precice family of devices are contraindicated for use in patients with metal allergies and sensitivities.
- Metallic implants can loosen, fracture, corrode, migrate, or cause pain.
- Smoking, chronic steroid use, and the use of other anti-inflammatory drugs have been determined to affect bone healing and could potentially have an adverse effect on the bone regenerate during the lengthening process.

Affected Devices:

Precice System Devices. See attachment 1 for a list of SKUs.

Transmission of this Field Safety Notice:

This notice needs to be passed on to all those who need to be aware of within your organization.

This notice has been reported to all applicable regulatory authorities.

Matthew Collins
Vice President, Global Quality Assurance
101 Enterprise #100
Aliso Viejo, CA 92656

March 1, 2021
Date

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Consignee Confirmation Form

It is important that your organization takes the actions detailed in this FSN and confirms that you have received this FSN. Please complete and return this form to NSO per the instructions below.

Your organization's reply is the evidence we need to monitor the dissemination of this notice.

Customer Name: _____

Address: _____

_____

_____

_____

Phone: _____

(Information required for regulatory effectiveness check)

I acknowledge receiving and reading the 01 Mar 2021 Precice System FSN

_____	_____	_____
Name/Title	**Signature**	**Date**
_____	_____	_____
NSO representative, if applicable	**Signature**	**Date**

This form is to be returned to NSO – Scan and email this form to FSNprecice@nuvasive.com