

# Storage and transport recommendations for first-void urine samples

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## INTRODUCTION

Urine, in particular, first-void urine (FVU)/ first catch can be used to detect human papillomavirus (HPV)<sup>1</sup>, sexually transmitted infections (STIs)<sup>2</sup> and prostate cancer biomarkers<sup>3</sup>. Novosanis' Colli-Pee® platform allows for volumetric and standardized collection of FVU, offering improved diagnostic accuracy and patient comfort compared to a regular urine cup<sup>4</sup>. The platform consists of variants capturing a range of urine volumes (4 mL to 45 mL\*) for different application purposes. Colli-Pee® variants (10 mL and 20 mL) are suited for standardized and volumetric collection of FVU.

In addition to urine collection, storage, transport and handling are critical to gain accurate results. Colli-Pee® (10 mL and 20 mL) devices can be pre-filled with non-toxic Novosanis proprietary Urine Conservation Medium (UCM), which allows the preservation of urine during storage and transport.

## 1. STORAGE

- Storage conditions for Colli-Pee® (10 mL) tubes with UCM before urine collection : **24 months**
- Storage conditions for Colli-Pee® (20 mL) tubes with UCM before urine collection : **24 months**

Storage conditions for first-void urine collected with UCM:

- Short-term storage at room temperature: **7 days**<sup>5</sup>
- Short- to mid-term storage at 4°C: **14 days**<sup>5</sup>
- Mid-term storage at -20°C: **7 to 90 days**<sup>1</sup>
- Long-term storage at -80°C: Aliquoted into cryovials for **up to 12 months**<sup>7</sup>

	Room Temp	4°C	-20°C	-80°C
FVU with UCM	7 days	14 days	up to 90 days	**
FVU without UCM	-	-	-	-
FVU UCM in cryovials	-	-	-	up to 12 months

**Table 1:** Storage recommendations for FVU. Room temperature is between 21°C to 25°C

## 2. TRANSPORT

Self-collection devices are often subject to leakage or evaporation from improperly capped tubes, especially if stored for a long period, transported through low pressure such as air flight or alongside liquids with low surface tension. In addition, the plastic creep can weaken the tube-cap tension over time, causing spillage<sup>8</sup>.

Colli-Pee®'s (20 mL) unique internal thread concept with inlying closure ring allows prefilled tubes with UCM to be stored and shipped without leakage for 12 months<sup>8</sup>.

FVU collected in the Colli-Pee® device prefilled with UCM can be transported by postal mail at room temperature<sup>9</sup>. As the environmental temperature often exceeds or falls below room temperature during transport, the effect of very low and high temperatures was investigated by exposing HPV DNA containing urine samples to several freeze/thaw cycles (F/T cycles) between -20°C and 50°C. When UCM was used as a preservative, several freeze/thaw cycles (F/T cycles) had no impact on sample preservation<sup>10</sup>.

Air transportation of diagnostic specimens is governed under authority of the International Civil Aviation Organization (ICAO) and its regulations are published by the International Air Transport Association (IATA).

The IATA dgr-61-en-3.6.2 classifications can be found online under the infectious substances section: <https://www.iata.org/en/programs/cargo/dgr/download/>



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\*Some registrations are in process.

\*\*Colli-Pee® collector tubes may become brittle upon storage at -80°C hence should be handled with care.