Hexvix® facts and figures

Hexvix® (hexaminolevulinate)
- is an optical imaging agent, which works as a photosensitizer
- enables a specific and accurate visualization of bladder tumors
- is the only approved diagnostic agent for the detection and management of bladder cancer (BC) in Europe.

Reasons for using Hexvix®
Because of the risk of recurrence and progression, patients diagnosed with non-muscle-invasive bladder cancer (NMIBC) may have to undergo frequent and costly invasive procedures in their routine monitoring. The patient pathway can be significantly improved with Hexvix®.

Hexvix® improves
- detection of NMIBC because more lesions are detected\(^1,2\)
- removal of tumors during resection due to better visualization\(^1,2\)

This results in
- better surgical results, leading to fewer residual tumors
- more accurate staging, leading to better post-operative decisions\(^3\)
- which further leads to
  - fewer short and long-term recurrences\(^1,2\)
  - a more accurate risk classification and therefore more individualized follow-up (fewer cycles of TURBs and cystoscopies) for the patients\(^4\)
  - better patient management during and after TURB

- BC is the 2\(^{nd}\) most frequent urological cancer and one of the most expensive cancers to manage from diagnosis to death.\(^5,6,7\) TURB represents, by far, the largest BC expenditure.\(^7\)
Use of Hexvix® has an impact on the healthcare costs associated with bladder cancer

- A recent UK evaluation by the NHS Technology Adoption Centre (NHS-TAC) showed that implementing initial Hexvix®-guided TURB would avoid 2,116 bed days over a 5-year follow-up.⁸
- A German TURB cost calculation demonstrated that blue light-guided TURB eliminates nearly 10% of the cost of conventional TURB over 10 years in a practice performing 300 TURBs/year.⁷
- A Swedish economic model showed that if Hexvix® was used in all patients, it could avoid 23 cystectomies and 180 TURBs in 2,032 newly diagnosed BC patients. If used only in high-risk patients, this would save €500,000 ($665,000) in the first year alone. If Hexvix® was used for all TURBs in high- and medium-risk patients, the first-year savings would be €405,000 ($537,000) and €363,000 ($483,000), respectively.⁹

Mode of action

- After instillation of Hexvix® solution into the bladder, Hexvix® penetrates the cellular membrane of cancer cells.
- In these cells, Hexvix® interferes with the haem biosynthetic pathway (see page 3).
- This leads to the accumulation of photoactive porphyrins (PAP), particularly Protoporphyrin IX (PpIX), the last intermediate in haem synthesis.
- PAPs selectively accumulate in rapidly proliferating cells (e.g. tumour cells).¹⁰
- After 1 hour, sufficient PAPs have been generated.
- Under blue light illumination (blue light cystoscopy), the PAPs emit red light providing specific and accurate visualization of the tumor.
- Diagnosis with blue light cystoscopy relies on the selective accumulation of PpIX in neoplastic cells, with levels up to 10 times greater in tumor than normal tissue following Hexvix® instillation.
- This leads to high fluorescence intensity and excellent contrast between normal and malignant urothelial cells.

Source: Dr. Dirk Zaak, Munich, Germany
References
4 EAU Guideline 2012.
5 Botteman MF et al., The Health Economics of Bladder Cancer – A Comprehensive Review of the Published Literature; Pharmacoconomics 2003; 21(18):1315-1330.
6 Sangar VK et al., The economic consequences of prostate and bladder cancer in the UK; BJU International 2005; 95(1):59-63.
10 Frampton JE and Polsker GL, Hexylaminolevulinate in the detection of bladder cancer; Drugs 2006; 66(4):571-578.