EUnetHTA Joint Action 3 2016-2020

Lithium triborate (LBO) laser for photoselective vaporisation of the prostate (PVP) in the treatment of benign prostatic hyperplasia (BPH)

Project ID: ***OTCA17***

Project description and planning

Agenzia nazionale per i servizi sanitari regionali – AGENAS (Italy)

Regione Emilia-Romagna – RER (Italy)

Version Log

Version number	Date	Modification	Reason for the modification
V1	03/07/18	First draft	-
V3	31/07/18	Developed draft	Comments from co-authors discussed and included
V3	07/09/18	Further developed draft	Comments from dedicated reviewers discussed and included
V4	11/09/18	Second draft	Comments from clinical experts discussed and included; fact check from manufacturers performed.
Final	15/10/18	Final project plan	-

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1 Project organisation

1.1 Participants

Table 1-1: Project participants

	Agency	Role in the project	Country	Distribution of work
Assessment team				
1.	Agenzia nazionale per i servizi sanitari regionali – AGENAS	Author	Italy	Develop first draft of EUnetHTA project plan, amend the draft if necessary. Perform the literature search. Carry out the assessment: answer assessment elements, fill in checklist regarding potential "ethical, organisational, patient and social and legal aspects" of the HTA Core Model for rapid REA (see table 6). Send "draft versions" to reviewers, compile feedback from reviewers and perform changes according to reviewers' comments. Prepare final assessment and write a final summary of the assessment.
2.	Regione Emilia Romagna – RER	Co-Author	Italy	Contribute to the preparation of draft EUnetHTA Project Plan. Check and approve all steps (e.g. search strategy, literature selection, data extraction, assessment of risk of bias, GRADE process) and provide methodological support. Review the 1st and 2nd draft assessment, propose amendments where necessary (perform additional hand search when needed) and provide written feedback.

				Assist in the analysis of comments from Dedicated Reviewers, Clinical Experts, and Manufacturers. Contribute in the elaboration of conclusions.
3.	Agencia de Evaluación de Tecnologías Sanitarias de Andalucía – AETSA	Dedicated Reviewer	Spain	Guarantee quality assurance by thoroughly reviewing the project plan and the assessment drafts. Review methods, results, and conclusions based on the original studies included. Provide constructive comments in all the project phases.
4.	Swiss Network for Health Technology Assessment – SNHTA	Dedicated Reviewer	Switzerland	Guarantee quality assurance by thoroughly reviewing the project plan and the assessment drafts. Review methods, results, and conclusions based on the original studies included. Provide constructive comments in all the project phases.
Contributors				
5.	Paolo Beltrami Unità Operativa Semplice Dipartimentale di Endourologia Clinica Urologica Dipartimento di Scienze Chirurgiche, Oncologiche e Gastroenterologiche Azienda Ospedaliera - Università di Padova	External expert	Italy	Guarantee quality assurance by thoroughly reviewing the project plan and the assessment drafts. Review methods, results, and conclusions based on the original studies included. Provide constructive comments in all the project phases.
6.	Franco Bergamaschi Director of the Urology Unit at Santa Maria Hospital IRCCS, Reggio Emilia	External expert	Italy	Guarantee quality assurance by thoroughly reviewing the project plan and the assessment drafts. Review methods, results, and conclusions based on

				the original studies included. Provide constructive comments in all the project phases.
7.	Michele Colicchia Unità Operativa Semplice Dipartimentale di Endourologia Clinica Urologica Dipartimento di Scienze Chirurgiche, Oncologiche e Gastroenterologiche Azienda Ospedaliera - Università di Padova	External expert	Italy	Guarantee quality assurance by thoroughly reviewing the project plan and the assessment drafts. Review methods, results, and conclusions based on the original studies included. Provide constructive comments in all the project phases.
8.	Rafael Medina Director of the Urologist and Nephrologist Clinical Unit in Hospital Virgen del Roció, Sevilla	External expert	Spain	Guarantee quality assurance by thoroughly reviewing the project plan and the assessment drafts. Review methods, results, and conclusions based on the original studies included. Provide constructive comments in all the project phases.
9.	TBD	Medical Editor		
10.	Agenzia nazionale per i servizi sanitari regionali – AGENAS	Project Manager	Italy	Project management

1.2 Project stakeholders

Table 1-2: Project stakeholders

Organisation	Role in the project
Boston Scientific	Manufacturer

The present assessment will focus on a specific lithium triborate (LBO) laser for photoselective vaporisation of the prostate (PVP) in the treatment of benign prostatic hyperplasia (BPH). The system was identified as the GreenLight XPS, manufactured by Boston Scientific. The topic was selected by the Italian HTA Steering Committee and the assessment requested within the National HTA Programme on medical devices.

1.3 Milestones and Deliverables

Table 1-3: Milestones and Deliverables

Milestones/Deliverables	Start date	End date
Project duration	**01/06/2018**	**25/03/2019**
Scoping phase	01/06/2018	31/08/2018
Identification of manufacturer(s) and external experts; *optional: identification of patients*	01/06/2018	30/06/2018
Scoping and development of draft Project Plan incl. preliminary PICO	01/06/2018	30/07/2018
Share the preliminary PICO with external experts *(and patients)* for comments	17/07/2018	24/07/2018
Internal Scoping e-meeting with the assessment team	*03/09/2018*	-
Scoping (e-) meeting with manufacturer(s) (optional)	*07/06/2018**	-
Send the preliminary PICO for comments (in case there is no scoping meeting planned) *and the request for the completion of the Submission file template to manufacturer(s) (optional)*	NA*	NA
Consultation of draft Project Plan with dedicated reviewers	31/07/2018	31/08/2018
Consultation of draft Project Plan with external experts *(and patients)* and fact check by manufacturers	11/09/2018	04/10/2018
Amendment of draft Project Plan & final Project Plan available	04/10/2018	15/10/2018
Assessment phase	**15/10/2018**	**25/03/2019**
Writing first draft rapid assessment	15/10/2018	08/01/2019
Review by dedicated reviewer(s)	08/01/2019	28/01/2019
Writing second draft rapid assessment	28/01/2019	11/02/2019
Review by ≥ 2 external clinical experts and fact check by manufacturers	11/02/2019	21/02/2019
Writing third draft rapid assessment	21/02/2019	01/03/2019
Medical editing	01/03/2019	15/03/2019
Writing of fourth version of rapid assessment	15/03/2019	21/03/2019
Formatting	21/03/2019	25/03/2019
Final version of rapid assessment		**25/03/2019**

**Manufacturers were met on 7th June 2018 by the Author according to internal rules for stakeholders' involvement. Information collected was shared with the Co-author. See details at par. 3.4.*

2 Project OutlineProject Objectives

The rationale of this assessment is to collaboratively produce structured (rapid) core HTA information on other technologies. In addition, the aim is to apply those collaboratively produced assessments in the national or regional context.

Table 2-1: Project objectives

	List of project objectives	Indicator (and target)
1.	To jointly produce health technology assessments that are fit for purpose, of high quality, of timely availability, and cover the whole range of health technologies.	Production of 1 (rapid) relative effectiveness assessment.
2.	To apply this collaboratively produced assessment into local (e.g. regional or national) context.	Production of ≥2 local (e.g. national or regional) reports based on the jointly produced assessment.

This rapid assessment addresses the research question whether lithium triborate (LBO) laser for photoselective vaporisation of the prostate (PVP) in the treatment of benign prostatic hyperplasia (BPH) is more effective and/or safer than i) Transurethral incision of the prostate (TUIP) in men with prostate volume less than 30 ml; ii) Transurethral resection of the prostate (TURP) in men with prostate volume between 30 and 80 ml; iii) Open prostatectomy, Holmium laser enucleation (HoLEP) or bipolar enucleation, in men with prostate volume over 80 ml; iv) Thulium laser vaporisation, diode laser vaporisation or laser enucleation in men at risk of bleeding sequelae who cannot stop anti-coagulation therapy. This topic was chosen based on a request from the Italian HTA Steering Committee of the Italian National HTA Programme. The relevance of the topic lies in the fact that LBO laser PVP may offer advantages in terms of duration of catheterisation, length of hospital stay, and bleeding due to a specific wavelength of 532 nm with a high affinity with oxyhaemoglobin.

2.2 Project Method and Scope

2.2.1 Approach and Method

Table 2-2: Project approach and method

Project approach and method
The HTA Core Model Application for rapid Relative Effectiveness Assessment (REA) (4.2) will be the primary source for selecting assessment elements. The selected assessment element generic questions will be translated into research questions. **TEC and CUR domains** • Input from manufacturers, particularly related to questions on CE mark, marketing, availability and current use will be obtained through the AGENAS manufacturer's questionnaire which will be sent to all relevant manufacturers of the technology under assessment. Manufacturers will be asked to submit non-confidential evidence, focusing on the technical characteristics and current use of the technology. • The technology will be described by consultation of manufacturers' websites, technical reports, instructions for use (IFU) documents, regulatory bodies' databases and information and data provided by the manufacturers. When necessary, *ad hoc* internet searches will be performed to identify additional relevant papers. • The health problem will be described referring to the latest published clinical guidelines on the management of the condition of interest (BPH). *Ad hoc* literature searches will be

performed to identify the latest and most relevant epidemiological studies. When necessary, information and data presented will be integrated with those provided by the manufacturers.
- Current use of the technology across EUnetHTA partners will be described by using data collected through a survey.
- Input from clinical experts will be considered in particular for the description of disease, current treatment, current use, and best available epidemiological data. The clinical experts will be asked to verify the relevance and accuracy of the information and citations.

EFF and SAF domains

A systematic literature search will be performed by the Author according to the search strategy defined together with the Co-author and reviewed by Dedicated Reviewers.

During the scoping phase, the Author, Co-author and Dedicated Reviewers, examined existing documents assessing the technology and decided to perform evidence searches ex novo starting from 2009, year in which the technology of interest (GreenLight XPS) received approval from FDA. Searches will be limited to comparative prospective studies (either randomised or not).

Two researchers will carry out the study selection process, independently, in accordance with previously defined PICO and inclusion criteria. This process will be checked by the Co-author. Disagreements between Author and Co-authors will be solved by discussion. The data extraction process will be performed by one researcher and reviewed by another researcher. This process will be checked by the Co-author. The Author will provide a list of included and excluded studies (with reasons for exclusion). In case of disagreement, third parties (Dedicated Reviewers and External Experts) will be involved.

Study and outcomes validity and level of evidence will be assessed according to the EUnetHTA guidelines [1,2]. The AMSTAR 2 instrument will be used for quality assessment of systematic reviews. For quality assessment of RCTs, the Cochrane risk of bias tool (RoB 2.0 tool) will be used. The ROBINS tool will be used to assess quality of non-randomised controlled studies. The quality of the body of evidence will be assessed using GRADE (Grading of Recommendations, Assessment, Development and Evaluation). The Author will perform the risk of bias assessment and the GRADE assessment while the Co-author will check it. Disagreements will be solved by consensus.

Table 2-3: Planned literature search strategy

Literature search strategy
• Sources for locating EFF and SAF domain specific information: Embase, Medline, and Cochrane Library. • Search terms: combination of keywords related to the indication *(benign prostatic hyperplasia, benign prostatic hypertrophy, prostatic adenoma)*, the intervention *(photoselective vaporisation of the prostate)*, and the specific technology *(lithium triborate laser, LBO laser, GreenLight)*. • Language: English. • Relevant ongoing studies will be identified by searching the following information sources: Clinicaltrials.gov, UK Clinical Trials Gateway, ISRCTN Registry, EU Clinical Trials Register, and international clinical trials registry platform (ICTRP).

Table 2-4: Plan for data extraction

Planned data extraction
Data to be extracted from the studies will include:

- Information about the study (authors, year of publication, setting/country, study design, clinical trial identification number/registry identifier, and funding source).
- Participant/patient characteristics (number of participants, age, mean prostate volume, and prostate-specific antigen/PSA, pre-existing sexual dysfunction, information on risk of bleeding, urinary retention).
- Intervention and control characteristics (description of procedure, comparator, name/type of the device, length of follow-up)
- Outcomes (**Effectiveness outcomes:** Reduction of symptoms using the IPSS and IPSSQOL; Improvement in Qmax and PVR volume; Duration of catheterisation; Rate of dysuria (pain); Length of hospital stay; Frequency of completion as a day-case; Patient reported outcomes such as sexual function, non disease-specific quality of life. **Safety outcomes:** Mortality; Rate of re-intervention (at any time); Procedural blood loss and blood transfusion need; Bladder outlet obstruction; Rate of TURP syndrome; Rate of capsular perforation; Any procedure or device-related adverse events such as incontinence, erectile dysfunction, urethral and bladder neck strictures); Established urinary incontinence; Irritative and obstructive symptoms).
- Risk of bias: Risk of bias of RCTs (Random sequence generation - selection bias; Allocation concealment - selection bias; Blinding of participants and personnel - performance bias; Blinding of outcome assessment - detection bias; Incomplete outcome data - attrition bias; Selective reporting - reporting bias); Risk of bias of non-randomised controlled studies (Bias due to confounding; Bias in selection of participants into the study; Bias in measurement of interventions; Bias due to departures from intended interventions; Bias due to missing data; Bias in measurement of outcomes; Bias in selection of the reported result); Overall bias.

2.2.2 Project Scope

Table 2-5: Project Scope: PICO (please see HTA Core Model® for rapid REA)

Description	Project Scope
Population	Male diagnosed with voiding obstruction due to benign prostatic hyperplasia (BPH) causing moderate-to-severe lower urinary tract symptoms (LUTS) in whom surgical intervention is indicated (i.e., with absolute indications for surgery or non-responders to medical treatment or those who do not want medical treatment but request surgical treatment). In particular: i) Men with prostate volume less than 30 ml; ii) Men with prostate volume between 30 and 80 ml; iii) Men with prostate volume over 80 ml; iv) Men at risk of bleeding sequelae who cannot stop anti-coagulation therapy. ICD-10-CM Diagnosis Code N40.1 ICD-9-CM Diagnosis Code 600.01 MeSH terms: Lower Urinary Tract Symptoms [C23.888.942.343], Prostatism [C23.888.942.343.600], Prostatic Hyperplasia [C12.294.565.500], Urinary Bladder Neck Obstruction [C12.777.767.700.962]. LBO laser PVP is intended for the treatment of the condition.
Intervention	Photoselective vaporisation of the prostate (PVP) using lithium triborate (LBO) laser. Product name: GreenLight XPS (Boston Scientific). MeSH terms: Laser Therapy [E02.594, E04.014.520].
Comparison	The following comparators will be considered: i) Transurethral incision of the prostate (TUIP) in men with prostate volume less than 30 ml; ii) Transurethral resection of the prostate (TURP) in men with prostate volume between 30 and 80 ml; iii) Open prostatectomy, Holmium laser enucleation (HoLEP) or bipolar enucleation, in men with prostate volume over 80 ml; iv) Thulium laser vaporisation, diode laser vaporisation or laser enucleation in men at risk of bleeding sequelae who cannot stop anti-coagulation therapy. MeSH terms: Transurethral Resection of Prostate [E04.950.774.860.625.750] Rationale: Comparisons have been defined according to the latest EAU Guidelines [3] considering those interventions indicated as current standard or first choice for the specific patients groups.
Outcomes	***Effectiveness*** ○ *Reduction of symptoms using the IPSS and IPSSQOL* ○ *Improvement in Qmax and PVR volume* ○ *Duration of catheterisation* ○ *Rate of dysuria (pain)* ○ *Length of hospital stay* ○ *Frequency of completion as a day-case* ○ *Patient reported outcomes (sexual function, non disease-specific quality of life)*

	Safety ○ *Mortality* ○ *Rate of re-intervention (at any time)* ○ *Procedural blood loss and blood transfusion need* ○ *Bladder outlet obstruction* ○ *Rate of TURP syndrome* ○ *Rate of capsular perforation* ○ *Established urinary incontinence* ○ *Irritative and obstructive symptoms* ○ *Any procedure or device-related adverse events (e.g., incontinence, erectile dysfunction, urethral and bladder neck strictures)* Rationale: Outcomes were identified according to clinical guidelines [3] and EUnetHTA guidelines [4–6]. The rating of the relative importance of outcomes will be performed at the start of the assessment phase by authors, co-authors and clinical experts according to the GRADE approach. Each outcome will be rated as "critical", "important but not critical", or "of limited importance".
Study design	Randomised controlled trials and comparative prospective non-randomised studies.

3 Communication and collaboration

Table 3-1: Communication

Communication Type	Description	Date	Format	Participants/ Distribution
Scoping	To internally discuss and reach consensus on the scoping and Project Plan.	*03/09/2018*	E-meeting	Author(s), co-author(s), dedicated reviewers, project manager.
First draft of the rapid assessment	*To discuss comments of dedicated reviewers*	*To be defined*	*E-meetings may be planned*	*Author(s), co-author(s), dedicated reviewers*
Second draft of the rapid assessment	*To discuss comments from ≥ 2 external clinical experts and manufacturers*	*To be defined*	*E-meetings may be planned*	*Author(s), co-author(s), dedicated reviewers; external experts, manufacturers*

3.3 Dissemination plan

The final rapid assessment will be published on the EUnetHTA website: http://www.eunethta.eu/joint-assessments.
All stakeholders and contributors are informed about the publication of the final assessment by the project manager.
The national assessment reports that will be produced by the Author and Dedicated Reviewers will be published on the agencies' websites, respectively. A scientific paper presenting the main findings may be submitted to a journal or to a congress.

3.4 Collaboration with stakeholders

Collaboration with manufacturer(s)

According to the procedure in place at the authoring agency (AGENAS), the manufacturer of the technology under assessment were invited to contribute to the project in the early stages of preparation by providing relevant information. Manufacturer was asked to notify their interest by responding to a call on the AGENAS website. An individual face-to-face meeting with the authoring team was held at AGENAS to present the project objectives, describe terms of collaboration and share a preliminary PICO. During the meeting, the manufacturer was informed that all the material shared with the authoring team before, during, and after the meeting (information and data) must not be confidential and could be published in final deliverables. Confidential information will not be requested and, if given, will not be used for the assessment. A structured questionnaire, developed by the Author, was sent to the manufacturer before the meeting to gather information on: the health condition addressed by the technology, standard of care for the condition, technical characteristics of the technology, current use of the technology, regulatory aspects, published/ongoing clinical studies, registries, costs data, and economic evaluations performed. Reply was shared with the Co-author and is available for dedicated reviewers. The 2nd draft Project Plan was shared with the manufacturer(s) for fact check. The 2nd draft assessment will be shared with the manufacturer(s) for fact check.

Collaboration with other stakeholders

During the scoping phase of the project, both the Author and the WP4 Co-lead Partner attempted to identify relevant patients associations to involve in the definition of PICO (in particular, outcomes which are supposed to be relevant from the point of view of the patient). Internet searches and enquires to the clinical experts involved in the project (coming from Germany, Italy and Spain) did not give any useful result. The involvement of a specific patients association will be reconsidered during the next steps of the project.

3.5 Collaboration with EUnetHTA WPs

For the individual rapid assessment, some collaboration with other WPs is planned: WP7 [Implementation] will be informed of the project, in order to prepare activities to improve national uptake of the final assessment. Feedback on the WP4 REA process will be asked from the involved parties by WP6 [Quality Management], and this information will be processed by WP6 to improve the quality of the process and output.

3.6 Conflict of interest and confidentiality management

Conflicts of interest will be handled according to the EUnetHTA Conflict of Interest Policy. All individuals participating in this project will sign the standardised “Declaration of Interest and Confidentiality Undertaking” (DOICU) statement.

Authors, co-authors and dedicated reviewers who declare a specific conflict of interest will be excluded from the whole work under this specific topic. However, they still may be included in other assessments.

For external experts, patients or other stakeholders involved, conflict of interest declarations are collected. External experts or patients who declare a specific conflict of interest will be excluded from parts of or the whole work under this specific topic. However, they still may be included in other assessments.

Manufacturer(s) will sign a Confidentiality Undertaking (CU) form regarding the specific project.

4 References

[1] EUnetHTA. Guideline - Internal validity of randomised controlled trials. 2015; Available from: https://www.eunethta.eu/internal-validity-of-randomised-controlled-trials/ (Accessed on 1st June 2018).

[2] EUnetHTA. Guideline - Internal validity of non-randomised studies (NRS) on interventions. 2015; Available from: https://www.eunethta.eu/wp-content/uploads/2018/01/Internal-validity-of-non-randomised-studies-NRS-on-interventions_Guideline_Final-Jul-2015.pdf (Accessed on 1st June 2018).

[3] Gravas S, Cornu JN, Drake MJ, et al. 2017 EAU Guidelines on Management of Non-Neurogenic Male Lower Urinary Tract Symptoms (LUTS), incl. Benign Prostatic Obstruction (BPO). Available at http://uroweb.org/wp-content/uploads/13-Non-Neurogenic-Male-LUTS_2017_web.pdf (Accessed on 1st June 2018).

[4] EUnetHTA. Guideline - Endpoints used for Relative Effectiveness Assessment Clinical Endpoints. 2015; Available from: http://www.eunethta.eu/sites/default/files/WP7-SG3-GL-clin_endpoints_amend2015.pdf (Accessed on 1st June 2018).

[5] EUnetHTA. Guideline - Endpoints used in Relative Effectiveness Assessment - SAFETY. 2015; Available from: http://www.eunethta.eu/outputs/endpoints-used-relative-effectiveness-assessment-safety-amended-ja1-guideline-final-nov-2015 (Accessed on 1st June 2018).

[6] EUnetHTA. Guideline - Endpoints used for Relative Effectiveness Assessment Health related quality of life and utility measures. 2015; Available from: http://www.eunethta.eu/sites/default/files/sites/5026.fedimbo.belgium.be/files/Endpoints%20used%20for%20Relative%20Effectiveness%20Assessment%20Health%20related%20quality%20of%20life%20and%20utility%20measures_Amended%20JA1%20Guideline_Final%20Nov%202015 (Accessed on 1st June 2018).

5 Appendix A

5.1 Selected Assessment Elements

The table shows the assessment elements and the translated research questions that will be addressed in the assessment. They are based on the assessment elements contained in the 'Model for Rapid Relative Effectiveness Assessment'. Additionally, assessment elements from other HTA Core Model Applications (for medical and surgical interventions, for diagnostic technologies or for screening) have been screened and included/ merged with the existing questions if deemed relevant.

Table 5-1: Selected Assessment Elements

ID	Topic	Topic Issue	Relevance in this assessment	Mandatory (M) or non-mandatory (NM)	Research question(s) or reason for non-relevance of 'mandatory' elements
Description and technical characteristics of technology					
B0001	Features of the technology and comparators	What is the technology and the comparator(s)?	**Yes – critical**	M	What is LBO laser PVP? What are TUIP, TURP, open prostatectomy, HoLEP, ThuLEP, diode laser vaporisation and laser enucleation?
A0020	Regulatory Status	For which indications has the technology received marketing authorisation or CE marking? [This assessment element can be placed either in the TEC OR in the CUR domain]	**Yes – critical**	M	For which indications has LBO laser received CE marking?
B0002	Features of the technology and comparators	What is the claimed benefit of the technology in relation to the comparator(s)?	**Yes – critical**	M	What is the claimed benefit of LBO laser PVP in relation to the comparators?
B0003	Features of the technology	What is the phase of development and implementation of the technology and the comparator(s)?	**Yes**	NM	What is the phase of development of LBO laser PVP and the comparators?
B0004	Features of the technology	Who administers the technology and the comparator(s) and in what context and level of care are they provided?	**Yes – critical**	M	Who administers LBO laser PVP and the comparators and in what context and level of care are they provided?
B0008	Investments and tools required to use the technology	What kind of special premises are needed to use the technology and the comparator(s)?	**No**	NM	Not relevant as the technologies do not seem to require special premises for being used.
B0009	Investments and tools required to use the technology	What equipment and supplies are needed to use the technology and the comparator(s)?	**Yes**	NM	What equipment and supplies are needed to perform LBO laser PVP?
A0021	Regulatory Status	What is the reimbursement status of the technology? [This assessment element can be placed either in the TEC OR in the CUR domain]	**Yes**	NM	What is the reimbursement status of LBO laser PVP?
Health problem and current use of technology					
A0002	Target Condition	What is the disease or health condition in the scope of this assessment?	**Yes – critical**	M	What is BPH?

ID	Topic	Topic Issue	Relevance in this assessment	Mandatory (M) or non-mandatory (NM)	Research question(s) or reason for non-relevance of 'mandatory' elements
A0003	Target Condition	What are the known risk factors for the disease or health condition?	**Yes**	NM	What are the known risk factors for BPH?
A0004	Target Condition	What is the natural course of the disease or health condition?	**Yes – critical**	M	What is the natural course of BPH?
A0005	Target Condition	What are the symptoms and the burden of disease or health condition for the patient?	**Yes – critical**	M	What are the symptoms and the burden of BPH for the patient?
A0006	Target Condition	What are the consequences of the disease or health condition for the society?	**Yes**	NM	What are the consequences of BHP for the society?
A0024	Current Management of the Condition	How is the disease or health condition currently diagnosed according to published guidelines and in practice?	**Yes – critical**	M	How is BPH currently diagnosed according to published guidelines?
A0025	Current Management of the Condition	How is the disease or health condition currently managed according to published guidelines and in practice?	**Yes – critical**	M	How is BPH currently managed according to published guidelines?
A0007	Target Population	What is the target population in this assessment?	**Yes – critical**	M	What is the target population in this assessment?
A0023	Target Population	How many people belong to the target population?	**Yes – critical**	M	How many people belong to the target population?
A0011	Utilisation	How much are the technologies utilised?	**Yes – critical**	M (NM for diagnostics)	How much are LBO laser PVP and the comparators used?
Clinical effectiveness					
D0001	Mortality	What is the expected beneficial effect of the intervention on mortality?	**No**	M	Mortality will not be assessed in relation to the health condition (within EFF) but as a safety outcome in C0008, related to the intervention (then within SAF).
D0005	Morbidity	How does the technology affect symptoms and findings (severity, frequency) of the disease or health condition?	**Yes – critical**	M	How does the LBO laser PVP affect: the reduction of BPH symptoms?
D0006	Morbidity	How does the technology affect progression (or recurrence) of the disease or health condition?	**Yes – critical**	M	How does LBO laser PVP affect progression of BPH?
D0011	Function	What is the effect of the technology on patients' body functions?	**Yes – critical**	M	What is the effect of LBO laser PVP on patients' body functions (urination, sexual function)?
D0016	Function	How does the use of technology affect activities of daily living?	**Yes**	NM	How does the use of LBO laser PVP affect activities of daily living?
D0012	Health-related quality of life	What is the effect of the technology on generic health-related quality of life?	**Yes – critical**	M	What is the effect of LBO laser PVP on the generic health related quality of life?

ID	Topic	Topic Issue	Relevance in this assessment	Mandatory (M) or non-mandatory (NM)	Research question(s) or reason for non-relevance of 'mandatory' elements
D0013	Health-related quality of life	What is the effect of the technology on disease-specific quality of life?	**Yes – critical**	M	What is the effect of LBO laser PVP on the disease-specific quality of life?
D0017	Patient satisfaction	Were patients satisfied with the technology?	**Yes**	NM	Were the patients satisfied with LBO laser PVP?
Safety					
C0008	Patient safety	How safe is the technology in relation to the comparator(s)?	**Yes – critical**	M	How safe is LBO laser PVP in relation to the comparators in terms of: mortality, rate of re-intervention (at any time), procedural blood loss and blood transfusion need, bladder outlet obstruction, rate of TURP syndrome, rate of capsular perforation, established urinary incontinence, irritative and obstructive symptoms, and any procedure or device-related adverse events.
C0002	Patient safety	Are the harms related to dosage or frequency of applying the technology?	**Yes**	NM	How do the harms relate to dosage or frequency of applying LBO laser?
C0004	Patient safety	How does the frequency or severity of harms change over time or in different settings?	**Yes – critical**	M	How does the frequency or severity of harms change over time or in different settings?
C0005	Patient safety	What are the susceptible patient groups that are more likely to be harmed through the use of the technology?	**Yes – critical**	M	What are the susceptible patient groups that are more likely to be harmed through the use of LBO laser PVP?
C0007	Patient safety	Are the technology and comparator(s) associated with user-dependent harms?	**Yes**	NM	Are LBO laser PVP and the comparators associated with user-dependent harms?
B0010	Safety risk management	What kind of data/records and/or registry is needed to monitor the use of the technology and the comparator(s)?	**No**	M for medical devices NM for screening and diagnostics	No data/records and/or registry are needed to monitor the use of LBO laser PVP and the comparators since no implantable devices are involved.
Organisational aspects					
G0001	Health delivery process	How does the technology affect the current work processes?	**Yes**	**Added from Core Model 3.0**	How does LBO laser PVP affect the current work processes in terms of frequency of completion as a day-case?

5.2 Checklist for potential ethical, organisational, patient and social and legal aspects

1. Ethical	
1.1. Does the introduction of the new technology and its potential use/non-use instead of the defined, existing comparator(s) give rise to any new ethical issues?	No
1.2. Does comparing the new technology to the defined, existing comparators point to any differences that may be ethically relevant?	No

2. Organisational	
2.1. Does the introduction of the new technology and its potential use/non-use instead of the defined, existing comparator(s) require organisational changes?	No
2.2. Does comparing the new technology to the defined, existing comparator(s) point to any differences that may be organisationally relevant?	Yes
A shorter length of hospital stay after LBO laser PVP would allow a better management of hospitalisations with consequent savings for the healthcare system.	
3. Social	
3.1. Does the introduction of the new technology and its potential use/non-use instead of the defined, existing comparator(s) give rise to any new social issues?	No
3.2. Does comparing the new technology to the defined, existing comparator(s) point to any differences that may be socially relevant?	No
4. Legal	
4.1. Does the introduction of the new technology and its potential use/non-use instead of the defined, existing comparator(s) give rise to any legal issues?	No
4.2. Does comparing the new technology to the defined, existing comparator(s) point to any differences that may be legally relevant?	No