

INVESTOR UPDATE

Brisbane, Australia and Delaware, United States, 8 November 2017: Invion Limited (ASX: IVX) is pleased to provide an Investor Update to the market, following the announcement on 31 August 2017 of a strategic transaction with The Cho Group, and the lodgement on 30 October 2017 of the Company's Notice of Annual General Meeting.

The attached Investor Update provides information on the Strategic Transaction with The Cho Group to develop and commercialise the New Generation PhotoDynamic Therapy, Photosoft, targeted to the treatment of solid cancers.

Investor Briefing: An Investor Briefing will be held at 2.00pm (Brisbane time) on Monday 13 November. Investors are invited to pre-register for the Briefing. To receive a calendar invite and pin number for fast-track access to the call, please follow this link:

<https://services.choruscall.com.au/diamondpass/buchan-639912-invite.html>

FOR MORE INFORMATION CONTACT: Interim Executive Chair: Dr Greg Collier. P: 07 3295 0500
investor@inviongroup.com

INVION INVESTOR UPDATE

Strategic Transaction with The Cho Group to develop and commercialise the New Generation PhotoDynamic Therapy, Photosoft™, targeted to the treatment of solid cancers



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INVION STRATEGY IN 2017



AIM:

Identify and pursue opportunities to reshape and enhance the company's pipeline and business growth



OUTCOME:

Licence to develop and commercialise Photosoft™ for the treatment of cancers
Agreement that provides non-dilutive funding for asset development

STRATEGIC TRANSACTION WITH THE CHO GROUP

1



Exclusive Distribution and Licence Agreement:
Invion has exclusivity in Australia and New Zealand to commercialise and distribute **Photosoft™** for the treatment of cancers. Licence value \$5.5M at \$0.002 per share

R&D Services Agreement:

Invion will conduct clinical development of Photosoft™ globally, leveraging the Company's expertise. The Cho Group will provide non-dilutive funding for R&D and clinical trials as part of a global development strategy for the asset

2



Underwriting Agreement:
The Cho Group will fully underwrite Rights Issue to raise up to \$2.5M

3



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WHAT IS PHOTO DYNAMIC THERAPY (PDT)?



Use of light to destroy cancerous cells or other abnormal tissue

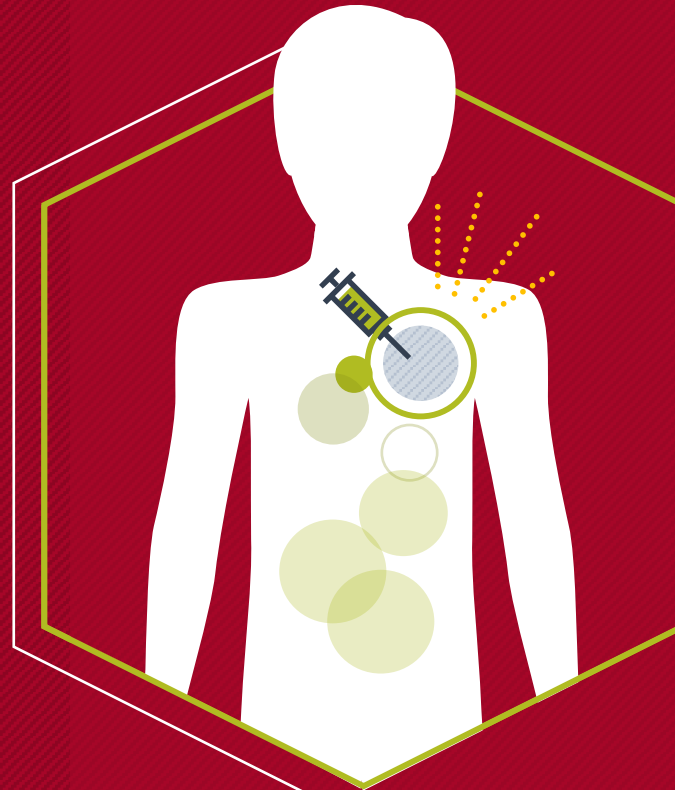


When exposed to specific wavelengths of light, photosensitizing agents produce a form of oxygen that causes destruction of nearby cells without damaging nearby tissue



Wavelength determines how far the light can travel into the body

HOW PDT WORKS



- 1** Photosensitizing agent is taken (by mouth) or given (intravenously)
- 2** The agent circulates through the body and concentrates at the site of the tumour
- 3** Light of specific wavelengths is shone on the body which activates the reaction in the tumour
- 4** The tumour is selectively destroyed

PDT IN PRACTICE

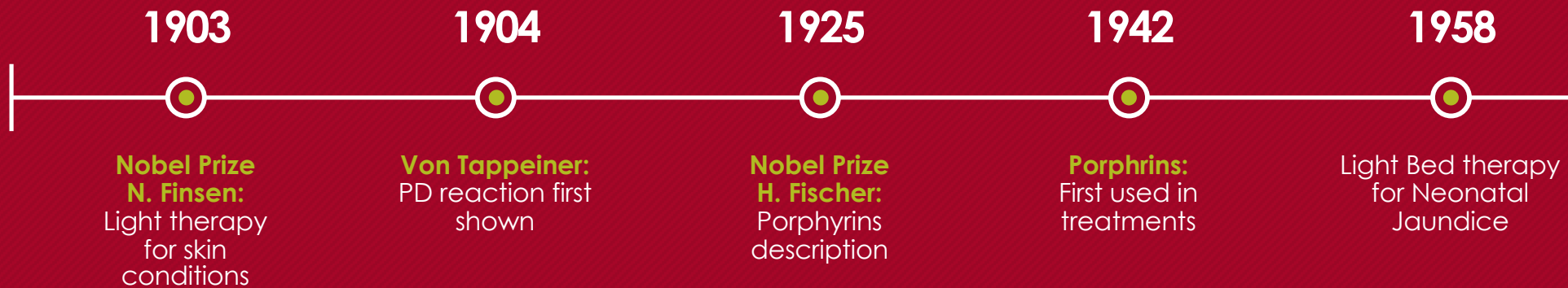
PDT IS USUALLY PERFORMED AS AN OUTPATIENT PROCEDURE

- There are a number of clinics throughout Australia that offer PDT therapy for the treatment of superficial skin cancers, and sunspots, including solar keratoses
- PDT may be repeated and may be used with other therapies, such as surgery, radiation therapy, or chemotherapy
- PDT is non-invasive and has lower negative side effects than other therapies



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HISTORY OF PHOTODYNAMIC THERAPY



1971-85

Dougherty:
Photofrin
therapy

Russian and
Chinese PDT
developments
NASA & RSA

1990

**Windahl et al.
(Denmark):** PDT
for local
prostate
cancer

2006

**Moore &
Emberton
(England):**
Interstitial
prostate PDT

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FIRST GENERATION PHOTOSENSITIZERS



PDT therapy became 'mainstream' in 1995 with the FDA approval of Photofrin[®] (porfimer sodium) for treatment of esophageal cancer

Variants of Photofrin[®] were subsequently developed in clinical trials

Tended to remain in the body for long periods



HOWEVER FIRST GENERATION PDT HAD PROBLEMS:

Fat solubility

Does not absorb longer wavelengths so treatment depth was limited



Leading to limited effectiveness and applicability



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SECOND GENERATION PHOTOSENSITIZERS



Largely
chlorophyll
based

Water soluble
with good
tissue
distribution

Strong absorption
and longer
wavelengths
allowing deeper
penetration of
tissues



**BETTER
TUMOR
SPECIFICITY**

Low circulation
times so patients
are not left
vulnerable to
sunlight damage

Different
chemistry



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NEW WAVE OF INTEREST WITH **TOOKAD**

STEBA BIOTECH CONDUCTED PH III IN 208 PATIENTS WITH LOW-RISK PROSTATE CANCER:



- “Localised, low-risk prostate cancer can be treated in a way that not only preserves genitourinary function but also results in a lower progression rate, a greater chance of being declared disease-free, and a reduction in need for whole-gland radical therapy in the form of surgery or radiotherapy compared with active surveillance”
- May allow more men to consider a tissue-preserving approach and defer or avoid radical therapy.
- Tookad submitted for EMA approval, 2017

Azzouzi, Abdel-Rahmène *et al.* (2016) Padeliporfin vascular-targeted photodynamic therapy versus active surveillance in men with low-risk prostate cancer. *The Lancet Oncology* (18:2 181–191)

NEW GENERATION PHOTO DYNAMIC THERAPY: PHOTOSOFT™

- Invion to in-licence asset based on patented PDT agent Photosoft™
- Targeted to address limitations of 1st Generation PDT therapies
- Uses a laser light activation method based on a short, pulsating Near Infrared (NIR) wavelengths
- High photodynamic efficiency combined with NIR peaks of absorption
- NIR light therapy allows more effective whole-of-body systemic treatment that can target circulating cancer cells as well as deeply seated tumours



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PHOTOSOFT™

- Chlorophyll-based PDT photosensitiser
- Complex of chlorin and chlorophyllin

ACTIVATES AT MULTIPLE
SENSITIVITY RANGES ACROSS
A BROAD SPECTRUM



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PHOTOSOFT™ ADVANTAGES

- Activation at multiple ranges allows deeper tissue penetration for the light source
- Water soluble
- Good bioavailability – can be administered sublingually and intravenously
- Chlorin-e6 and Chlorophyllin-A are used
- Positive immune response demonstrated in Phase I clinical trials

CURRENTLY AVAILABLE
THERAPIES

1









PHOTOSOFT™

2



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1ST GENERATION VS PHOTOSOFT™

LIMITATION	1 ST GENERATION PDT	PHOTOSOFT™
 CLEARANCE TIME	2 to 3 months clearance time. This causes extreme light sensitivity and patients are generally required to stay indoors.	Fast body clearance time from normal cells and tissue structures as well as organs. Combined with high cancer cell selectivity allows patients to safely walk in the sunlight.
 SELECTIVITY FOR CANCER CELLS	Low cancer cell selectivity therefore binds / penetrates non- cancer cells. Treatment requires endoscopic intervention with laser light directed through a fibre optic toward the tumour to avoid healthy cells.	Highly selective only accumulating in cancer cells therefore the light activation can be safely provided over the whole body to treat every area affected by cancer.
 TOXICITY	Some 1 st generation PDT agents are derived from synthetic materials that are toxic.	Photosoft is chlorophyll-based, derived from plants.
 DEPTH OF LIGHT PENETRATION	Limited application and only used for surface tumours as the agent activation light is able to penetrate between 0.5 and 3 cm depth.	Photosoft is activated with specific high frequency light able to penetrate through solid tissues and bone to deeply seated tumours.
 SINGLET OXYGEN YIELD	Generate a low level of singlet oxygen release so effectiveness to kill cancer cells is limited.	Photosoft has photodynamic efficiency capable of producing a high level of singlet oxygen, resulting in more effective cancer cell damage and death.
 CANCER CELL PENETRATION	Oil based photo-sensitizer agents have low membrane permeation properties causing them to be weakly absorbed across the cell membrane.	Photosoft possesses both hydrophilic (water-loving) and lipophilic (fat-loving) properties enabling the agent to penetrate cancer cell membrane and accumulate in high concentration inside the cancer cell increasing damage and cell death.

LOCALISED PROSTATE CANCER: THE STATE OF PLAY

INCREASING NUMBERS OF MEN ARE CHOOSING ACTIVE SURVEILLANCE OVER SURGERY OR RADIOTHERAPY BECAUSE OF THE RISKS OF THESE TREATMENTS

- Active surveillance was ~6% of US patients 15 years ago, now 40%
- Surgery and radiotherapy are radical treatments associated with urinary incontinence (9-18% over 15 years), erectile dysfunction (87-94%) and poor bowel function (22-36%)
- Over 20,000 men are diagnosed each year in Australia and New Zealand at estimated lifetime cost of A\$26,000 p.a. = large market opportunity

EARLY STUDIES OF PHOTOSOFT™ CONDUCTED IN AUSTRALIA

PHASE I | PROSTATE CANCER

2013

- Photosoft™ was administered to 68 prostate cancer patients by Urologist Donald Murphy and collaborators
- Results for 26 patients that had been treated for >6 months were reported at the Urological Society of Australia and New Zealand meeting in Melbourne in April 2013
- Half of patients had stable to decreasing PSA and half increasing PSA, while prostate size generally fell on assessment using diagnostic imaging

2017

- A second Phase I was completed by Donald Murphy in collaboration with Monash University
- Participants had localised treatment-naïve prostate cancer or were patients with local relapse
- Photosoft™ was safe and well-tolerated
- PSA levels were checked at three months post-treatment and found four of seven first-line patients registering stable PSA. None of the three relapse patients registered stable PSA.
- A global reduction in prostate size was noted across the primary treatment group
- A proteomics analysis of protein samples found in the urine of the patients found various immune-related biomarkers were upregulated, with high statistical significance ($p < 0.001$)

A NEW WAVE: IMMUNOTHERAPY AND PDT



Immune response is important in the control of tumour growth



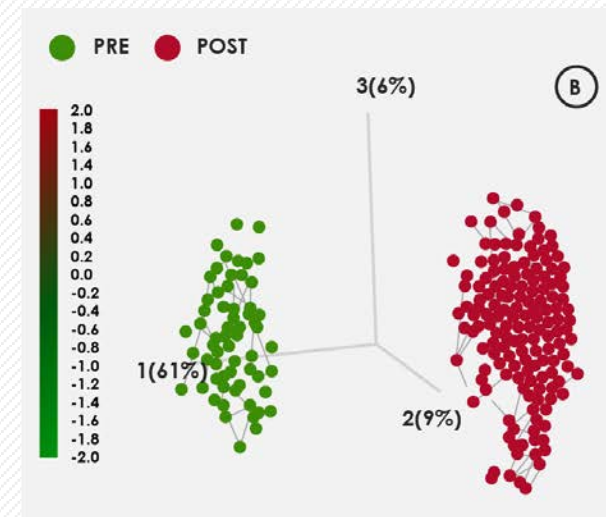
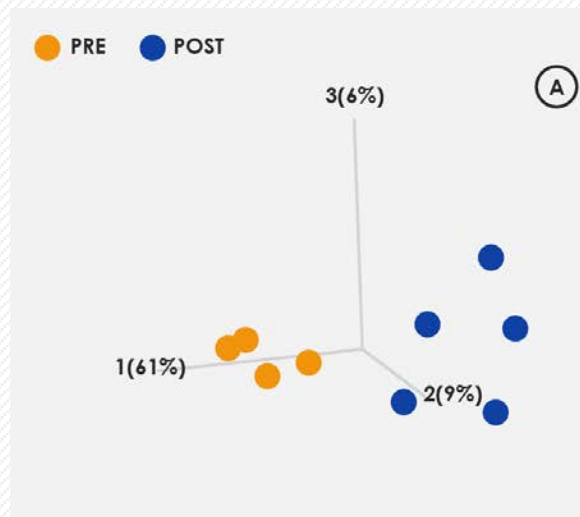
In vivo evidence exists that immunotherapy and PDT could work well together



Research in the PDT space is increasingly considering the immunological implications

PHASE I PROSTATE CANCER DATA

- 86 proteins relating to immune responses were observed
- Proteins relating to certain immune response pathways are enriched and were significantly over-represented within the dataset



ADVANTAGES OF NGPDT AND PHOTOSOFT™

- The immune response observed by Murphy in the Phase I provides potential advantages over other water-soluble PDT therapies such as Tookad®
- There is a growing body of knowledge that PDT has the potential to generate an anti-cancer immune response
- Tookad® Ph III success and EMA submission brings PDT into the mainstream via wider research, medical application and potential commercial success
- PDT therapies target early-state treatment as non-invasive and repeatable



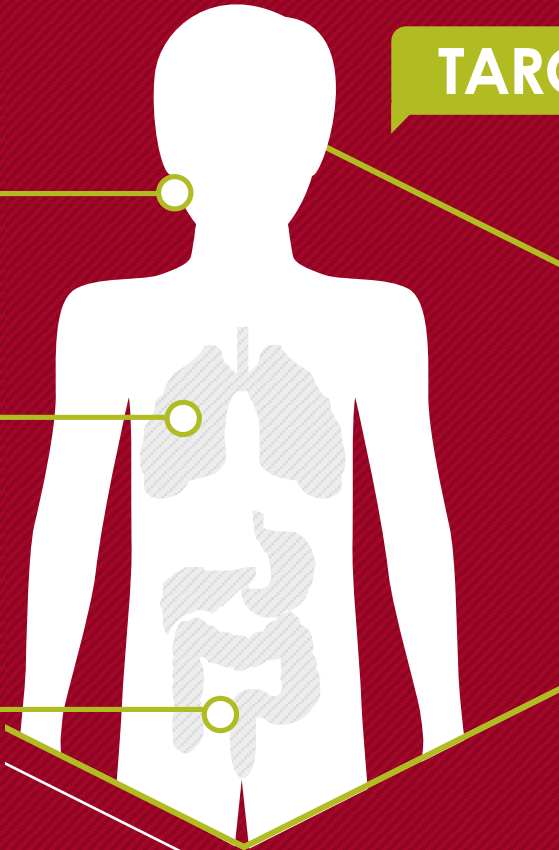
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TARGETS

Skin cancers including melanoma, squamous cell carcinoma & basal cell carcinoma

Lung cancer

Prostate or Ovarian cancer



PDT THERAPIES
TARGET
EARLY-STAGE
TREATMENT AS
**NON-INVASIVE
AND REPEATABLE**

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1

Establish Scientific Advisory Board, and timing/ costs of Phase II/ III clinical trials in prostate cancer leading to approval submissions

2

Explore short term opportunities for treatment of skin cancers and other disorders

3

Develop ovarian cancer strategy as the next clinical opportunity for Photosoft™

FIRST STEPS:
FUNDED WITH
NON-DILUTIVE
CAPITAL

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ACQUISITION/ LICENSING OPPORTUNITIES



INV103 (Cpn10)



INV102 (Nadolol)



INV104 (Zafirlukast)

- ➔ Current assets have completed programmed clinical development
- ➔ Management remains committed to licensing the assets

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MANAGEMENT TEAM

CURRENT



Dr Greg Collier
Interim Executive
Chair



Dr Mitchell Glass
(Invion, Inc).
Chief Medical
Officer



Melanie Farris
Head of
Operations and
Company
Secretary

MANAGEMENT TEAM

POST- TRANSACTION



Mr Thian Chew
Non-Executive
Chairman



Dr Greg Collier
Chief Executive
Officer



Dr Mitchell Glass
(Invion, Inc).
Chief Medical
Officer



Melanie Farris
Head of
Operations and
Company
Secretary



Other
Board changes
anticipated to
occur in 2018

COMPANY SNAPSHOT AND IMPACT OF TRANSACTION

The effect of the proposed transaction on the capital structure of the Company

	Number of Shares	Percentage of issued capital
Shares on issue at the date of the Notice of Meeting	1,455,965,273	26.69%
Shares to be issued under the Exclusive Distribution and Licence Agreement (resolution 7)	2,750,000,000	50.40%
Shares to be issued under the Underwritten Rights Issue (resolution 8)	1,250,000,000	22.91%
TOTAL	5,455,965,273	100%

Overall ownership structure of the Company after completion of the Underwritten Rights Issue

Shareholder	Number of Shares	Percentage interest
All existing Shareholders other than The Cho Group	1,604,725,067	29.41%
The Cho Group and Polar Ventures	3,851,240,206	70.59%
TOTAL	5,455,965,273	100%

IMPORTANT DATES: INDICATIVE TIMETABLE

Monday, 30 October 2017



Notice of Meeting lodged with ASX and dispatched to Shareholders

Monday, 13 November



Invion Investor Session

Thursday, 30 November 2017



Date of Annual General Meeting

Thursday, 7 December 2017



Issue of Shares under the Exclusive Distribution and Licence Agreement

Monday, 11 December 2017



Consolidation to take effect

First quarter 2018



Announce Underwritten Rights Issue

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RESOURCE SLIDES



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WHAT IS PHOTODYNAMIC THERAPY?

- Photodynamic therapy (PDT) was developed at Roswell Park Cancer Institute (RPCI) in the late 1970s by Thomas Dougherty, PhD
- PDT is a treatment that uses a light sensitive drug – a photosensitizer - and non-thermal visible red light, typically generated by a laser
- When photosensitizers are exposed to a specific wavelength of light, they produce a form of oxygen that causes an almost immediate destruction of nearby cells without permanently damaging surrounding tissue
- Each photosensitizing agent is activated by light of a specific wavelength. Wavelength determines how far the light can travel into the body



<https://www.roswellpark.org/patients/treatment-services/innovative-treatments/photodynamic-therapy>
<https://www.cancer.gov/about-cancer/treatment/types/surgery/photodynamic-fact-sheet>

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PDT MECHANISM OF ACTION

PHOTODYNAMIC THERAPY (PDT)

uses non-toxic photosensitisers and harmless visible light in combination with oxygen to produce cytotoxic reactive oxygen species that kill malignant cells by apoptosis and/or necrosis, shut down the tumour microvasculature and stimulate the host immune system. In contrast to surgery, radiotherapy and chemotherapy that are mostly immunosuppressive, PDT causes acute inflammation, expression of heat-shock proteins, invasion and infiltration of the tumour by leukocytes, and might increase the presentation of tumour-derived antigens to T cells.



Castano et al. 2006. 'Photodynamic therapy and anti-tumour immunity'. Nat Rev Cancer Jul;6(7):535-45.

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RESEARCH OUTPUT: MD ANDERSON CENTRE



Clinical studies revealed that PDT can be curative, particularly in early stage tumors. It can prolong survival in patients with inoperable cancers and significantly improve quality of life. Minimal normal tissue toxicity, negligible systemic effects, greatly reduced long-term morbidity, lack of intrinsic or acquired resistance mechanisms, and excellent cosmetic as well as organ function-sparing effects of this treatment make it a valuable therapeutic option for combination treatments. With a number of recent technological improvements, PDT has the potential to become integrated into the mainstream of cancer treatment.



Agostinis, P., Berg, K., Cengel, K. A., Foster, T. H., Girotti, A. W., Gollnick, S. O., ... Golab, J. (2011). Photodynamic therapy of cancer: An update. *CA Cancer Journal for Clinicians*, 61(4), 250-281. DOI: 10.3322/caac.20114

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PDT IN PRACTICE

- The light used for PDT can come from a laser or other sources
 - Laser light can be directed through fiber optic cables to deliver light to areas inside the body. For example, a fiber optic cable can be inserted through an endoscope into the lungs or esophagus to treat cancer in these organs
 - Other light sources include light-emitting diodes (LEDs), which may be used for surface tumors, such as skin cancer.
- PDT is usually performed as an outpatient procedure
- PDT may also be repeated and may be used with other therapies, such as surgery, radiation therapy, or chemotherapy.
- There are a number of clinics throughout Australia that offer PDT therapy for the treatment of superficial skin cancers, and sunspots, including solar keratoses.



<https://www.cancer.gov/about-cancer/treatment/types/surgery/photodynamic-fact-sheet>

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COMPARABLE COMPANY: PHOTOCURE



PHOTOCURE®



Norwegian specialty pharmaceutical company focusing on urology and its Photocure Technology® platform



Provides "important qualities that enhance the properties of photodynamic technology for diagnosis and therapy. Uniquely selective for diseased cells, effective and safe, minimally invasive"



US\$77m
cap on Oslo Bors