

AlgiScan®

Key features

Performance

- Measurement system by video camera and built-in DSP
- Measurement range: 0.5 to 10 mm (pupil size)
- Precision 0.1 mm , Resolution 0.01 mm (pupil Size)
- Measurement and image acquisition frequency 67 Hz.

Clinical

- Measurement of patient's analgesia level: PPI® (Pain Pupillary Index)
- Measurement of Pupillary Reflex Dilatation (PRD)
- Measurement of PRD triggered by a calibrated electric stimulus
- Measurement of Pupillary Light Reflex by standardized Flash light.

Ergonomic design

- Touch screen with adjustable optical sight
- Over 10,000 measurements stored in memory
- Autonomy approximately one week in normal use
- Data Transfer by USB connection (optional)
- No user calibration required

Compliance and approvals

- EN 60601-1
- EN 60601-2-10
- IEC 62471
- IIa CE Class

References

Objective Assessment of the Immediate Postoperative Analgesia Using Pupillary Reflex Measurement: A Prospective and Observational Study.
Aissou M, Snauwaert A, Dupuis C, Atchabahian A, Aubrun F, Beaussier M. Anesthesiology. 2012 Mars

Assessment of pain in sedated and mechanically ventilated patients: an observational study. Jeitziner MM, Schwendimann R, Hamers JP, Rohrer O, Hantikainen V, Jakob SM. Acta Anaesthesiol Scand. 2012 Mar 7.

Reflex pupillary dilatation in response to skin incision and alfentanil in children anaesthetized with sevoflurane
Constant I, Nghe MC, Boudet L, Berniere J, Schraye S, Seeman R, Murat I. Paris Br J Anaesth. 2006

Effect site concentrations of remifentanyl and pupil response to noxious stimulation
Barvais L, Engelman E, Eba JM, Coussaert E, Cantraine F, Kenny GN. Erasme Hospital, Belgium Br J Anaesth. 2003 BJA

Assessment of thoracic epidural analgesia during general anesthesia using pupillary reflex dilation: a preliminary study.
Isabelle Huybrechts, MD, Luc Barvais, MD, PhD, Anne Ducart, MD, Edgard Engelman, MD, Denis Schmartz, MD, and Marc Koch, MJournal of Cardiothoracic and Vascular Anesthesia. 2006 BJA

Pupillary response to noxious stimulation during isoflurane and propofol anesthesia
Larson MD, Sessler DI, Washington DE, Merrifield BR, Hynson JA, McGuire J. Anaesth Analg 1993;76:1072-8

Pupillary reflex dilation and skin temperature to assess sensory level during combined general and caudal anesthesia in children
John Emery, David Ho; Leslie MacKeen; Elise Héon; Buissonnette B Paediatric Anaesthesia, V. 14, 2004

Evaluations of physiologic reactivity and reflexive behaviors during noxious procedures in sedated critically ill patients.
Li D, Miaskowski C, Burkhardt D, Puntillo K. Department of Physiological Nursing, University of California, San Francisco, CA, J Crit Care. 2009 Sep

SFAR Congress 2011 Paris -Pupillometry allows to evaluate nociception intensity for different chirurgial inscicion ?
M.Mazerolles, H. Vinour, F. Lebalte (France - Toulouse C.H.U Rangueil)

ASA Congress 2011- Monitoring of analgesia using pupillometry decreases opioid consumption during major gynecological surgery / ref: A282
J. Barrois, C. Dadure, A. Rigouzzo, N. Sabourdin, N. Louvet, I. Constant (C.H.U. Trousseau Paris - France)

AlgiScan®

Pupillary Algesimeter



 **equip**
the key to medical innovation



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AlgiScan®: Your Analgesia at a glance



Pupillary Reflex Dilation (PRD) has been shown to correspond to the analgesia level of patients and is useful in both the operating theatre and intensive care.

AlgiScan offers a dynamic and bespoke approach to a patient's analgesia, providing reproducible and accurate measurements of pupillary diameter and a trace of variations over time.

From optimising morphine doses to monitoring regional anaesthetics under general anaesthetic, as well as measuring an individual patient's reaction to pain, the AlgiScan is a very convenient clinical tool for analgesia monitoring.

Painful procedures where pupillary monitoring has been shown to be beneficial:

(Check our clinical references on the back)

In the Surgery Unit

- Incision
- Post-operative analgesia
- Analgesia evaluation
- Assessment of epidural
- Epidural analgesia during general anaesthesia

In Intensive care

- Endotracheal suctioning
- Turning / Patient Mobilization
- Pain procedure

4 Operating modes



PPI® (Pain Pupillary Index):

Measurement of PRD following an automatically increasing electric stimulation (from 10 to 60 mA).

A low PPI score (e.g. 1-2) indicates a deep analgesia.

A high PPI score (e.g. 7-8) indicates an insufficient or slight analgesia.



Tetanus

Measurement of PRD following an operator-controlled electric stimulation.



PRD

Measurement of Pupillary reflex dilatation following a medical nociceptive stimulus



PLR

Measurement of Pupillary Light Reflex following a light stimulation.

AlgiScan® electrodes

Electrodes designed for patient comfort and security, guarantee the reproducibility and accuracy of stimulations.



A control curve of pupil size variation enables an accurate check of measurement precision.

Absolute measurements of the pupil with guaranteed precision.

Identification and automatic recording of all measurements.

A range of nociceptive stimulation compatible with all levels of analgesia.

Suggestions of interpretations for a quick and reasonable analysis of the results.

Optimal ergonomic design for intuitive use.

PPI test® on a sedated patient:
In this case, the pupillary response to electrical stimulation shows an insufficient level of analgesia for a surgical incision. [PPI® score 6/10]