NIOM
Nordic Institute of Dental Materials

NEWSLETTER
MAY – 2017

Ellen Bruzell
Senior Scientist, dr. scient.

SUBSTANTIAL VARIATIONS IN LIGHT CURING PROCEDURES

Important factors to ensure long-lasting fillings, namely light intensity, curing time and the resulting light dose, varied severalfold, shows a recent questionnaire among Norwegian dentists. Eight out of 10 respondents could not state the intensity value of their curing light, leaving an adequate curing time uncertain. Adding to the uncertainty was the fact that a higher number of these respondents did not maintain their curing light device regularly.

Thirty percent of the respondents did not use eye protection against blue light, and of these, most were older than about 40 years.

The total light dose applied to a restoration could only be estimated for the 20% of respondents who reported the curing light intensity (irradiance). The highest light dose applied to cure one layer of composite material was 15 times higher than that of the lowest. The highest value was about twice that reported in the literature as being adequate for curing while the lowest estimated value was among the lowest for adequate curing. An unwanted side effect of curing is the possible eye exposure to reflected, blue light. Estimations showed that exceedance of hazard limit values for blue light to eyes was possible after placing eight to 10 fillings provided the mean reported irradiance value was used. Thirty percent of the respondents did not use eye protection against blue light, and of these, most were older than about 40 years.

The dentists placed an average of eight restorations per day spending an average curing time of 27 seconds on each layer. The total curing time per day, all layers included, was 13 minutes, varying between 1 to 100 minutes. About 15% of the dentists reported that they had no routines for regular maintenance of their curing lights, but about half of them monitored the light irradiance regularly with a curing light meter.

About 15% of the dentists reported that they had no routines for regular maintenance of their curing lights, but about half of them monitored the light irradiance regularly with a curing light meter.

The questionnaire used in this study was sent to all dentists in the Public Dental Service in Norway in 2015. A response rate of 56% was obtained. Age and gender of respondents varied similarly to dentists working in private practices.

Reported data is scarce on light curing times of restorations and irradiance of the curing devices used. In this study we sought to improve the knowledge of such parameters as total light dose applied to a restoration layer and the total potential exposure to reflected light to the dentist's eyes during a workday.

NIOM
Nordic Institute of Dental Materials
Sognsveien 70A,
NO-0855 Oslo, Norway.
phone: (+47) 67 51 22 00
e-mail: niom@niom.no
www.niom.no

Continue reading for free in (open access):

Kopperud SE, Rukke HV, Kopperud HM, Bruzell EM. Light curing procedures - performance, knowledge level and safety awareness among dentists. J Dent. 2017 Mar;58:67-73. doi: 10.1016/j.jdent.2017.02.002.

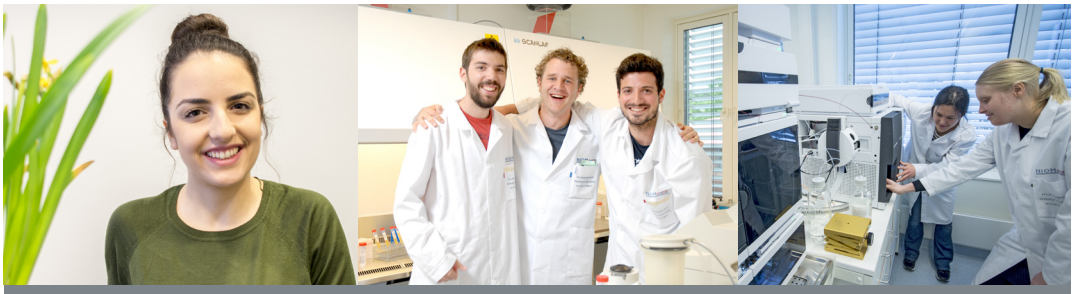
Abstract :
https://www.ncbi.nlm.nih.gov/pubmed/28179193

NIOM
Nordic Institute of Dental Materials

VACANT POSITIONS AS VISITING SCIENTIST AT NIOM DURING 2018

Positions as visiting scientist in the field of biomaterials research are offered at the Nordic Institute of Dental Materials, NIOM, in Oslo, Norway.

The purpose of NIOM´s visiting scientist program is to enhance Nordic collaboration on biomaterials research. Positions are available during 2018 for periods between 3 and 6 months. Scientists having documented education and/or research experience in the field of biomaterials are welcome to apply. The institute's research activities are focused on biological, chemical, physical and clinical questions related to dental and medical biomaterials. PhD candidates and young scientists are especially invited to apply.



NIOM is increasingly popular among international researchers and high level students trough our visiting scientist programme.

Deadline for application:
June 20th 2017

More information about NIOM is available at www.niom.no, or from Director Professor Jon E. Dahl or Head of laboratory Dr. Hilde M. Kopperud.

The salary is based on personal qualifications. The visiting scientist has to pay their personal living costs, but for visitors normally resident outside the Oslo area an allowance of NOK 5650,- per month is available.

The applicants shall prepare a research plan containing:
(a) Aim of the project
(b) Material and methods to be used
(c) Budget for the project (salary excluded)

The application, in a Scandinavian language or English, must include the applicant's CV and research plan and should be addressed to: NIOM as, Sognsveien 70A, NO-0855 Oslo, Norway. You may also send it by e-mail to: niom@niom.no.

Deadline for application: June 20th 2017.

Oslo, May 2017

Jon E. Dahl,
Managing director

NIOM
Nordic Institute of
Dental Materials
Sognsveien 70A,
NO-0855 Oslo, Norway.
phone: (+47) 67 51 22 00
e-mail: niom@niom.no
www.niom.no

NIOM
NORDIC INSTITUTE OF DENTAL MATERIALS

KNOWLEDGE – INNOVATION – QUALITY

The Nordic Institute of Dental Materials (NIOM) is responsible for promoting a continuing Nordic collaboration in the field of dental biomaterials. NIOM maintains a distinct Nordic profile through broad contacts with the Nordic dental educational institutions and research centres. The Institute undertakes research, materials testing, standardisation and research-based consulting directed towards health authorities and dental health services in the Nordic countries. Our research and consulting are required to be scientifically founded and applicable to clinical dentistry.