

Advisor : Jananya Plianrunsi DDS, DABOM, FRCSEd

Members : Mr.Paroj Piyakitsomboon 5700221  
Ms.Nattaporn Verayangkura 5700194  
Ms.Sittirat Ananthanandon 5700186  
Ms.Salisa Sriyarun 5700212  
Ms.Thaninthorn Prasertungruang 5700214

# Fluorescence Technique

Used for oral health screening in modern dentistry.



## Objective:

The objective of this study was comparing whether fluorescence examination is comparable to standard visual examination for the detection of carious lesion, plaque accumulation and gingival inflammation.



## Background:

Dental caries and periodontal disease are the most important oral health issues in Thai population due to high prevalence. Therefore, the instrument required for early detection clinically is an interesting topic to be further discussed to prevent disease progressions.

## Materials and methods:

The study recruited 40 subjects. All subjects will undergo both standard examination and SOPROCARE® examination to detect caries, gingival inflammation and plaque accumulation.

## Data analysis:

Cariou lesion will be recorded as a measure of no-disease vs disease. Plaque accumulation and gingival inflammation was scored in numeric data by Sillness and Loe index in P0-P3 and G0-G3, respectively.



## Results:

The result of dental caries detection found that clinical examination is higher than fluorescence. For dental plaque score and gingival inflammation, fluorescence examination has average score lower than clinical. Finally, old and new plaque detection by SOPROCARE® and conventional method has the same result as 71.5% and gave the different result of 28.5%.

This study found that sensitivity of fluorescence examination for dental plaque detection is 88.68%; whereas, specificity is 33.33%. Gingival inflammation detection has sensitivity of 83.79%; whereas, specificity is 50.00%. In other words, this method is sensitive for gingival inflammation detection. Whereas, sensitivity for caries detection is only 33.80%, but specificity is extremely high at 99.33%.

## Conclusion:

This could be concluded that the conventional method able to detect carious lesions, gingival inflammation and dental plaque more than fluorescence examination. SOPROCARE® in PERIO mode has high disease detection ability but not suit for diagnostic assessment. Whereas, It able to detect dental caries well. So, it can prevent the over treatment and it is a perfect tool for patient motivation for oral hygiene instruction.

