

## Evaluation of an Implantable Cardiac Device (ICD) Training Program for Clinical Physiologists



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### Purpose

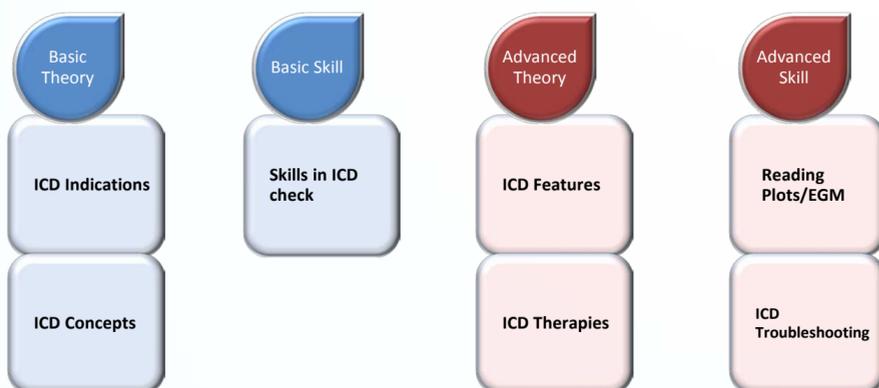
This study aims to assess the effectiveness of an implantable cardiac device (ICD) training program, which was conducted for clinical physiologists of Clinical Measurement Unit (CGH), between July 2018 and Jan 2019.

### Method

#### ICD Training Program

Total 15 training sessions were organized, which included 12 lectures given by cardiologists or device vendors, and 3 discussions led by experienced clinical physiologists. The training objectives are to improve clinical physiologists' knowledge and practical skills in ICD. Lectures focused on cardiac arrhythmias, ICD concepts & features and troubleshooting skills. Discussions were scheduled in-between lectures to enhance learning outcome.

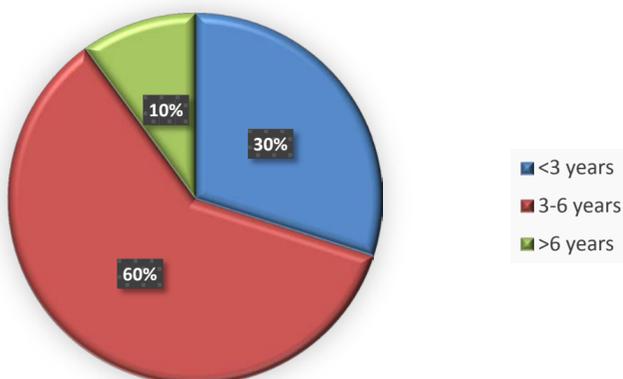
#### Training Content



### Trainee Background

10 clinical physiologists with minimum of 3 year-experience in cardiac were enrolled into and completed this training program. The majority of trainees (60%) have 3-6 years of experience in ICD Check.

#### Experience in ICD Check



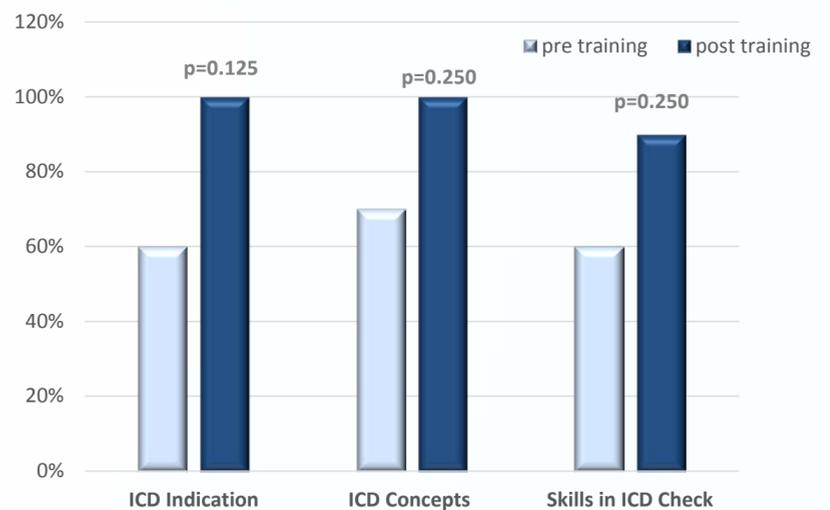
### Training Evaluation

Self evaluation survey, using a 5 point Likert scale, was developed to assess clinical physiologists' theory and practical skills in basic and advanced level. Data were analysed by Wilcoxon Signed Rank test.

### Result

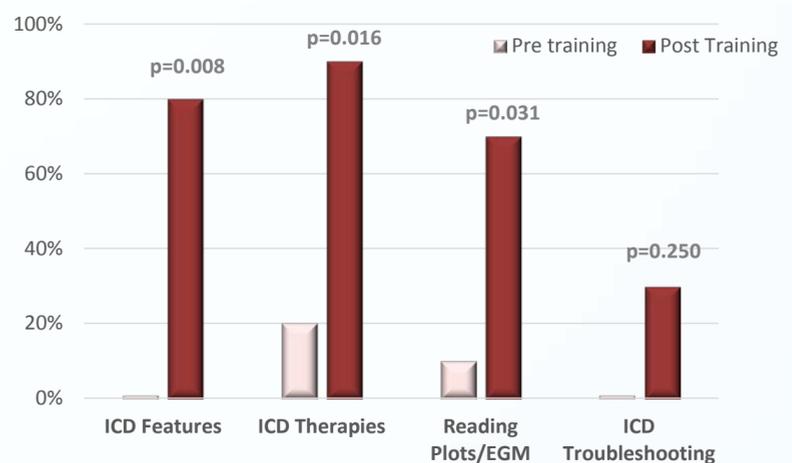
The results show that there is improvement in basic theory and skills (65% to 100%, 60% to 90% respectively). It is statistically insignificant ( $p > 0.25$ ) because the majority of participants have prior basic knowledge and experience in ICD check.

#### Improvement in Basic Theory and Skills



The results also show that there is statistically significant improvement in advanced theory ( $p < 0.016$ ). For advanced skills, the improvement is only seen in reading plots and recognizing EGM ( $p = 0.031$ ) but not in ICD troubleshooting ( $p = 0.250$ ).

#### Improvement in Advanced Theory and Skills



### Conclusion

This ICD training program has improved clinical physiologists' advanced theory and skills in reading plots & recognizing EGM. Since the training was conducted mainly in the form of lecturing and discussion, troubleshooting skill has not been improved significantly. Hence the future training programs require incorporating multiple learning modes such as hands-on or case simulations.