

# Necessity of 45-day Transesophageal Echocardiography after WATCHMAN Procedure amid the COVID-19 Pandemic

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## BACKGROUND

- Amid the COVID-19 outbreak, elective aerosolizing procedures such as TEE should be deferred as the procedure provokes coughing and gagging, which can cause aerosolization of the virus.
- According to American Society of Echocardiography (ASE), the risks and benefits of performing TEE should be considered for patients who are COVID-19 positive, and patients who may be asymptomatic.
- In atrial fibrillation patients undergoing left atrial appendage closure (LAAC), TEE is typically performed at 45 days to assess peri-device flow <5mm and an absence of device-related thrombus (DRT) before oral anticoagulation (OAC) is discontinued.
- We sought to investigate whether a 45-day TEE is absolutely necessary for patients who underwent LAAC amid the COVID-19 pandemic.

## METHODS

- We retrospectively studied 200 patients who underwent successful WATCHMAN procedure the Rochester General Hospital (June 2016 - June 2019).
- All patients were maintained on OAC and aspirin upon discharge until 45-day TEE was performed.
- We aimed to assess TEE measured peri-device flow at the time of WATCHMAN implantation and at 45 days.
- We also aimed to evaluate the incidence of DRT on 45-day TEE.

**Incidence of significant peri-device flow and device-related thrombus at 45 days post-WATCHMAN is very low**

**Our results suggest that oral anticoagulation may be safely discontinued at 45 days without TEE**

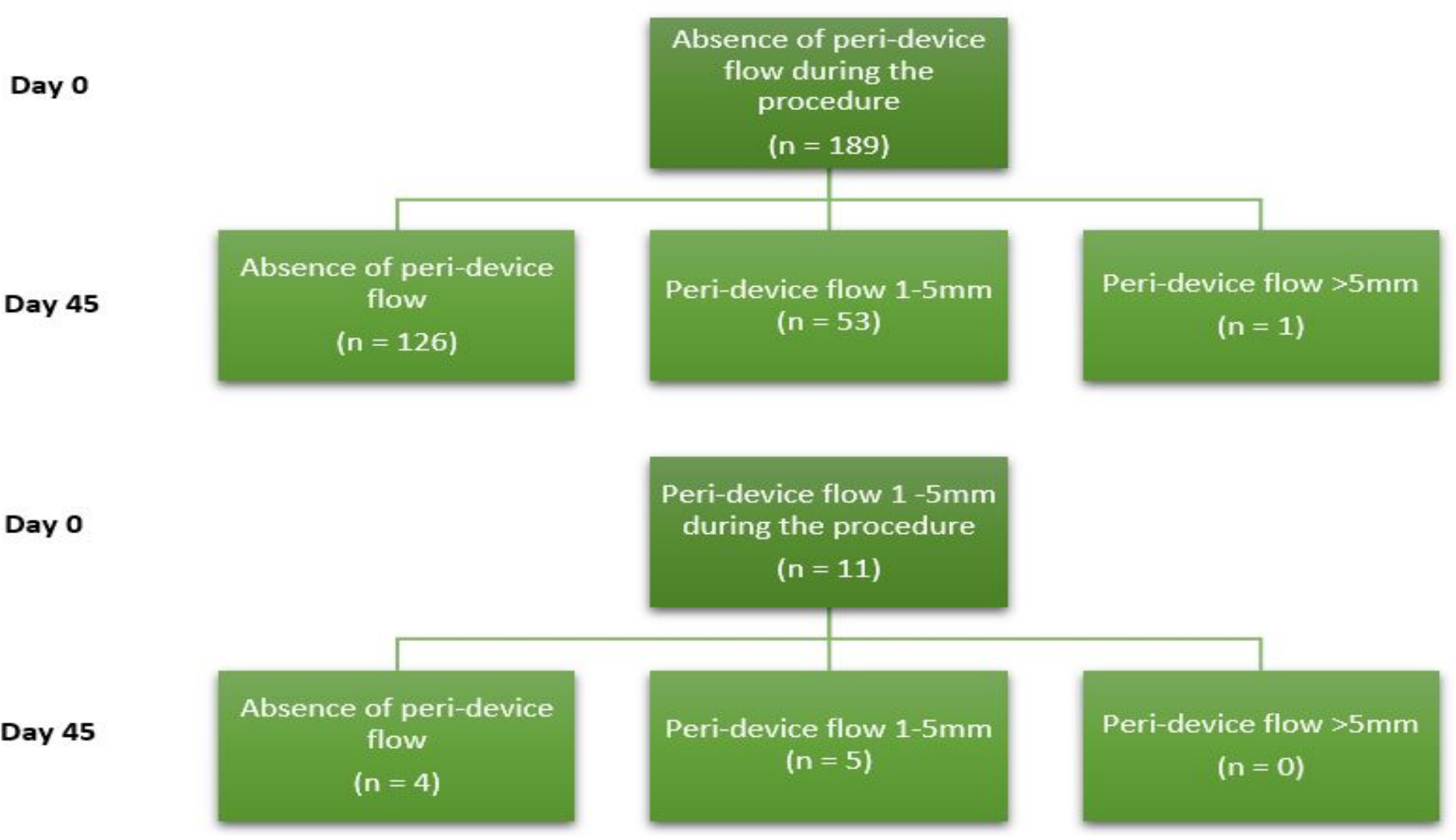
**Deferring 45-day TEE post-WATCHMAN has the potential to minimize PPE use & reduce risk of viral transmission amid the COVID-19 pandemic**

## RESULTS

- Among 189 patients without peri-device flow during procedure, 180 underwent TEE at 45 days, and only 1/180 (0.6%) had significant peri-device flow > 5mm. Among 11 patients with peri-device flow 1 – 5mm during procedure, 9 underwent TEE at 45 days, and none (0%) had peri-device flow > 5mm. (Figure 1). No patients had DRT on 45-day TEE.

Baseline Characteristics	n = 200
Age, yrs	75.9 ± 8.3
Female	86 (42.9%)
CHADS <sub>2</sub> score	3.0 ± 1.3
CHA <sub>2</sub> DS <sub>2</sub> /VASc score	4.8 ± 1.6
HASBLED score	2.9 ± 0.9
CHF	92 (45.8%)
Hypertension	190 (94.5%)
Diabetes	69 (34.3%)
Stroke/TIA/thromboembolism	68 (33.8%)
Prior MI	69 (34.3%)
History of major bleeding	153 (76.1%)
High fall risk	53 (26.4%)
Chronic kidney disease	29 (14.4%)
Liver disease	5 (2.5%)
Alcohol abuse	5 (2.5%)
Labile INRs	15 (7.5%)
On OAC at referral	95 (47.3%)
<b>Discharge characteristics</b>	
Discharged on DOAC	155 (77.5%)
Discharged on warfarin	44 (22.0%)

**Table 1:** Baseline and discharge characteristics of patients. Continuous variable presented as mean +/- sd, categorical variable presented as n/N (%)



**Figure 1:** Residual peri-device flow during the procedure and at 45 days (

## CONCLUSION

- The incidence of significant peri-device flow and DRT at 45 days is very low. 45-day TEE post-WATCHMAN implantation may not be necessary for all patients, and OAC may be safely discontinued at 45 days without a TEE.
- Deferring 45-day TEE post-WATCHMAN implantation has the potential to minimize use of PPEs and reduce preventable risks of viral transmission amid the COVID-19 outbreak.