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Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Conclusion: AW ECG recording appears inhibited by unipolar LBBAP, but not bipolar pacing. Patients should be made aware of this issue. When possible, bipolar pacing or alternative monitors should be considered.

COMPLIANCE CHALLENGES IN A LONGITUDINAL COVID-19 COHORT USING WEARABLES FOR CONTINUOUS MONITORING

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Background: Compliance to wearables is a major challenge when conducting a remote monitoring study and can bias results.
Purpose: Our aim was to evaluate patients' compliance to wearable wristbands and determinants of this compliance in a COVID-19 prospective cohort.
Methods: Biostrap is a photoplethysmography (PPG)-based wearable device that was used to monitor participants' biometric data. Patients were required to put on the wearables at all times in order to transmit data. Compliance was calculated in percentage by dividing the total number of days transmitted by the total number of days in the study. Pearson's bivariate linear correlations were performed between compliance, days in the study and age, BMI, sex, symptom severity, and number of complications/comorbidites as independent variables. Also, multivariate linear regression was then performed with days in the study as a dependent variable to assess the power of different parameters in determining days in the study.
Results: Patients were 42.8 ± 15.5 years old and were 32% females. On average, patients had a compliance rate of 45 ± 34 % and were followed up for 204 ± 99 days. Age was found to be correlated with compliance ($r=0.23$, $p=0.01$). In addition, age ($r=0.30$, $p=0.001$), BMI ($r=0.19$, $p=0.03$) and severity of symptoms ($r=0.19$, $p=0.03$) were found to be correlated with days spent in the study. Multivariate analysis with days spent in the study as a dependent variable and age, sex, BMI, severity of symptoms, and number of complications as independents, only increased age was a significant determinant of increased days spent in the study (adjusted $R^2 = 0.1$, $\beta = 1.6$, $p= 0.01$).
Conclusion: Compliance is the major obstacle that presents with remote monitoring studies and is multifactorial. Patient factors such as age play a role in adherence to wearables and can bias study results.
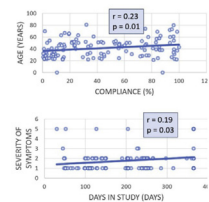
	Adjusted R Square	Coefficients (β)	Standard Error	P-value	Lower 95%	Upper 95%
Age		**1.61**	**0.58**	**0.01**	**0.46**	**2.76**
Sex		3.07	17.81	0.86	-32.20	38.33
BMI	0.1	1.92	1.05	0.07	-0.17	4.01
Severity of symptoms		9.38	8.19	0.25	-6.82	25.59
Complications count		-6.10	8.44	0.47	-22.81	10.62

Two graphs showing bivariate linear correlations and table showing multivariate analysis with days in the study as a dependent variable

A WEARABLE DEVICE USING CLOTH-BASED NANOSENSOR TECHNOLOGY, SIMPLESENSE, CAPTURES MULTI-PARAMETRIC CHANGES IN NOCTURNAL PHYSIOLOGY IN A HEART FAILURE PATIENT LEADING UP TO A HOSPITALIZATION EVENT

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Background: Nocturnal symptoms such as Paroxysmal nocturnal dyspnea (PND) are common among Heart Failure (HF) patients. Current HF management does not include a method to continuously monitor and risk-stratify patients based on physiological changes surrounding nocturnal arousals.
Methods: The SimpleSense device is a wearable device using cloth-based Nanosensor technology for the evaluation and monitoring of patients at home. SimpleSense captures two leads of ECG and thoracic impedance, heart sounds, actigraphy, and postures. The SimpleSense device was worn by a patient (Age 58, M, NYHA IV, LVEF 65%) for 12 hrs per day, overnight, for 90 days. An analysis of data captured between 12 AM and 4 AM over 90 days yielded 238 instances when the patient had attained a seated posture from a lateral or supine posture. After extraction of a 2-hour window of data centered on each waking event, the time taken for parameters to return to within 10% of baseline was extracted and binned into 7-day windows.
Results: A HF-related hospitalization event (HFE) occurred on day 65 for the patient. Week-to-week trends in respiration rate, relative tidal volume, and mean heart rate showed longer recovery times nearing a HFE (Figure).
Conclusion: The SimpleSense device captured multi-parametric changes and the time taken for the metrics to return to baseline after nocturnal awakening events in a HF patient. Nocturnal physiological changes associated with arousal could be a valuable risk stratification tool for HF management.

Time in Minutes for each metric to return to within 10% of baseline after a WE (Admission Event - day 65 (HFE))
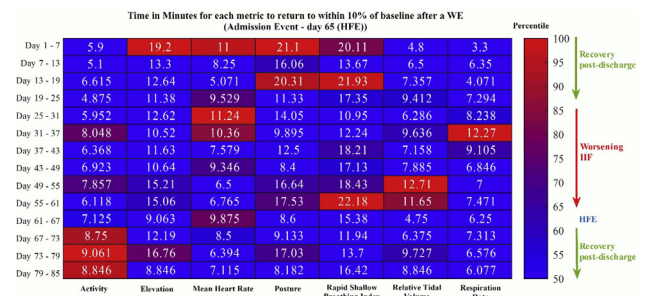
CREATION OF A VIRTUAL SPECIALIST OUTPATIENT CARDIOLOGY CLINIC FOR CORRECTIONAL FACILITIES IN AUSTRALIA

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Background: The COVID-19 pandemic created unprecedented challenges to health care delivery. There was a need to transition to outpatient telehealth visits that involve distanced real-time interaction between patients and providers using audio and video capabilities without direct physical interaction. We co-designed a virtual cardiology clinic at our centre that services all correctional facilitates across New South Wales, which is Australia's most populous state with a land mass bigger than Texas.
Objective: We describe the creation of a virtual care specialist outpatient cardiology clinic for correctional services in NSW and assess the service delivery compared to the pre-COVID face-to-face clinics.
Methods: Patients were triaged to in-person or virtual clinics via an online referral system. A co-ordinated approach between our