

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202611032303 A

(19) INDIA

(22) Date of filing of Application :17/03/2026

(43) Publication Date : 08/05/2026

(54) Title of the invention : WEARABLE PHYSIOLOGICAL MONITORING AND SUPPORT DEVICE

| | | |
|---|--|--|
| (51) International classification | :A61B5/00, A61B5/02, A61B5/11, A61B5/318, A61B5/389, A61B5/25, A61B5/01, A61B5/1455 | (71) Name of Applicant : 1)Chitkara University Address of Applicant :Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura Punjab India (72) Name of Inventor : 1)Dr. Monika Rani 2)Jobandeep Singh |
| (31) Priority Document No | :NA | |
| (32) Priority Date | :NA | |
| (33) Name of priority country | :NA | |
| (86) International Application No | : | |
| Filing Date | :01/01/1900 | |
| (87) International Publication No | : NA | |
| (61) Patent of Addition to Application Number | :NA | |
| Filing Date | :NA | |
| (62) Divisional to Application Number | :NA | |
| Filing Date | :NA | |

(57) Abstract :

A wearable physiological monitoring and support device, comprising of a wearable, stretchable jacket 101 to be worn on an upper body of a user, a belt 102 for fastening the jacket 101, a plurality of motorized rollers 103 to tighten or loosen the belt 102, a plurality of electromyography (EMG) sensors 104 to monitor muscle activation, at least one inertial measurement unit (IMU) 105 to assess posture, joint angles, and movement patterns, at least one metabolic marker sensor 106 to detect lactate or related metabolites, at least one ECG (electrocardiogram) sensor 107 to monitor heart rate and cardiac electrical activity, at least one near infrared spectroscopy (NIRS) sensor 108 to measure muscle oxygen saturation, at least one graphene based sensor 109 to enhance detection of biochemical and electrical signals, and at least one infrared (IR) thermistor 111 or temperature sensor to measure skin and muscle surface temperature.

No. of Pages : 27 No. of Claims : 10