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MAUDE Adverse Event Report: PHILIPS MEDICAL SYSTEMS AVALON FM30 FETAL MONITOR



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PHILIPS MEDICAL SYSTEMS AVALON FM30 FETAL MONITOR

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Model Number M2703A

Device Problem Incorrect Or Inadequate Test Results

Event Date 11/29/2016

Event Type Death

Manufacturer Narrative

A follow-up report will be submitted upon completion of the investigation.

Event Description

In this case the customer reported a patient incident with a deceased fetus where it is now in question why the monitor showed a fetal heart rate but the fetus was deceased.

Manufacturer Narrative

The patient is a (b)(6) year-old (b)(6) female, primigravida, presenting with a pregnancy at (b)(6) with a recently diagnosed fetal demise. The patient presented to the emergency room on (b)(6) 2016 in the morning complaining of decreased fetal movement. On workup ultrasound was done revealing fetal demise. Labs were, otherwise, unremarkable on her workup. Ultrasound that was done in the radiology department revealed the fetal demise. No cardiac motion. The estimated age of the fetus was (b)(6). The placenta was anterior with no previa. Cervical length was 3.1 cm. AFI was 16.2. On the patient's presentation to the emergency room, there was a fetal heart rate trace taken. It showed a fetal heart rate between 150s to 170s with some unusual hyper variability. No apparent decelerations looking at the fetal heart rate tracing retrospectively. The maternal heart rate was measured with a spo2 transducer and was between 80s and 90s bpm. The provided data (log files and strips) have been evaluated in the factory by a philips clinician and the product support engineer. The log files showed no fatal errors. Evaluation of the provided strips identified that the fetal heart rate presented in the trace are duplicated maternal heart rates. From a technical point of view this is not a malfunction. The algorithm measuring the fetal heart rate is designed to detect pulsations from the fetal heart. In case the fetus is already demised, the algorithm will take the next best pulsating signal which is the maternal aorta. Due to the demised fetus swinging in the anionic fluid within in the ultrasound beam, the algorithm easily might double or half the detected heart rate. This is one limitation of the auto correlation algorithm. The auto correlation algorithm can display a doubled fetal or maternal heart rate if the duration of diastole and systole are similar to each other, and if the heart rate is below 120 bpm. Doubling, usually brief, is accompanied by an abrupt switch of the trace to double the baseline value. In addition the maternal heart rate may simulate a normal fetal heart rate pattern (i. E. , it may mask a fhr deceleration or fetal demise). It was found that the fetal life was not confirmed before starting patient monitoring as it is strongly recommend by philips. Fetal movement profile (fmp) annotations on a fetal trace alone may not always indicate that the fetus is alive. The body of a deceased fetus can move and cause the monitor to annotate fetal body movements. This is what the customer has seen in this case on the strips. There had been movement annotations even when the fetus was already deceased. The customer has not confirmed the fetal life before starting with patient monitoring. In case the fetus is already deceased when doing fetal monitoring the device might misinterpret the maternal heart rate obtained from the aorta as fetal heart rate. Due to the fact that deceased fetus is swimming in the anionic fluid in front of the aorta, these movements might be misinterpreted as fetal movement of a

well being fetus. Thus this case falls into a usage of outside normal and expected. The results of the event investigation and device evaluation have been provided to the customer in a customer letter. There was no malfunction of the device. The device remains at the customer site. No part failed.

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Brand NameAVALON FM30 FETAL MONITOR
Type of DeviceFETAL MONITOR
Manufacturer (Section D)PHILIPS MEDICAL SYSTEMS
Hewlett-Packard Str.2
Boeblingen 71034
GERMANY 71034
Manufacturer (Section G)PHILIPS MEDICAL SYSTEMS
3000 Minuteman Road
Andover MA 01810
Manufacturer ContactRobert Corning
Hewlett-Packard Str.2
Boeblingen 71034
GERMANY 71034

MDR Report Key6171431

Report Number9610816-2016-00314

Device Sequence Number0

Product Code[HGM](#)²⁴

Report SourceManufacturer

Reporter OccupationOther

Type of ReportFollowup

Report Date11/29/2016

2 Devices WERE Involved in the Event:[1](#) [2](#)

1 Patient Was Involved in the Event

Date FDA Received12/13/2016

Is This An Adverse Event Report?Yes

Is This A Product Problem Report?No

Device OperatorHealth Professional

Device MODEL NumberM2703A

Was Device Available For Evaluation?Yes

Is The Reporter A Health Professional?No

Was the Report Sent to FDA?No

Event LocationNo Information

Date Manufacturer Received11/29/2016

Was Device Evaluated By Manufacturer?Yes

Date Device Manufactured06/12/2015

Is The Device Single Use?No

Is this a Reprocessed and Reused Single-Use Device?No

Type of Device UsageReuse

Patient TREATMENT DATA**Date Received: 12/13/2016 Patient Sequence Number: 1**

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