#1303 PHYSIO CONTROL

Public Citizen

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Ralph Nader, Founder

August 26, 1993

David A. Kessler, M.D., J.D.
Commissioner, U.S. Food and Drug Administration
5600 Fishers Lane
Rockville, MD 20857

RE: INEFFECTIVE FDA ENFORCEMENT ACTIONS AGAINST ELI LILLY'S PHYSIO-CONTROL SUBSIDIARY FOR ITS DANGEROUS HEART DEFIBRILLATORS.

Dear Dr. Kessler,

Public Citizen's Health Research Group has obtained documents from FDA which indicate that there have been serious ongoing problems associated with the use of defibrillators manufactured and sold by Physio-Control, a wholly-owned subsidiary of Eli Lilly. As we explain below, for a period of at least 5 years, FDA's actions have been ineffective in protecting the public from exposure to Physio-Control's deadly devices. Defibrillators are used to provide an electric shock to the heart, in order to restore its normal rhythm during cardiopulmonary resuscitation (CPR), when the patient is in danger of death from an ineffective heart rhythm. It is essential that such devices work properly during CPR, because patients' chances of survival diminish within minutes.

I. INTRODUCTION

From January 1, 1992 - March 31, 1993, there were approximately 1,000 medical device reports (MDRs) submitted to FDA regarding defects involving all models of Physio-Control Lifepak devices. "Lifepak" is Physio-Control's brand name for its external defibrillators, monitors, and pacemakers. We have examined FDA's computerized summaries of each of these MDR reports. During that 15-month period, there were at least 322 deaths associated with defective Physio-Control Lifepak defibrillators and pacemakers (the Lifepak 8 defibrillator features an external cardiac pacemaker).[1]

[1] Because of the critical condition of these patients, some would have died even if the device had not malfunctioned.

In July of 1992, Physio-Control entered into a consent decree of permanent injunction in U.S. District Court, Western District of Washington, under which the company was enjoined from further manufacture or shipment of any medical devices because of years of noncompliance with GMP (good manufacturing practices) and MDR (medical device reporting) regulations. On May 18, 1993, Physio-Control received permission from FDA to resume manufacture of one device, the Lifepak 10 defibrillator/monitor, after FDA was satisfied that the GMP and MDR violations were remedied. However, since May 18, the company is conducting a field correction recall of all Lifepak 10 devices to correct more problems. According to the Medical Devices Diagnostics & Instrumentation Report of August 2, 1993, "[c]urrently manufactured [Lifepak 10] devices continue to be shipped with the older [defective] coils due to insufficient quantities of new coils....Physio-Control says it anticipated the Lifepak 10 recall when it resumed marketing and that FDA was aware of the situation."

It is especially disturbing that FDA was allegedly aware of defects with Lifepak 10 defibrillators when it authorized Physio-Control to resume marketing the devices in May, 1993, especially if the agency knew that devices would be shipped with defective parts. The FDA has known of serious good manufacturing practice (GMP) problems with Physio-Control for at least five years, judging from inspection reports we have received. If FDA has known the extent of GMP problems since 1988, why has effective action not been taken to get the defective devices away from patients? What is the value of recalls, safety alerts, and injunctions, if patients are still exposed to defective devices?

In this letter, we wish to alert you to the fact that, despite warning letters, recalls, safety alerts, and an injunction, FDA actions taken against Physio-Control were, and continue to be, ineffective in protecting the public from these defective devices. We request an explanation for the continued threat posed by these defibrillators. Finally, we urge criminal prosecution of Lilly's Physio-Control subsidiary for its pattern of reckless disregard of GMP and MDR regulations.

II. FDA INSPECTIONS OF PHYSIO-CONTROL

Since November of 1989, FDA has conducted at least 12 inspections of Physio-Control's manufacturing facility in Redmond, Washington. Several of these inspections resulted in reports carefully documenting a pattern of widespread divergence from GMP and MDR regulations.

1. The summary of findings from the November 20, 1989 - January 30, 1990 inspection consisted of 38 pages of customer complaints, and GMP and MDR violations. Judging from this summary of findings, the company's manufacturing practices were in chaos, and severe problems were found with certain Lifepak defibrillators.

The following are excerpts from the inspection report:

"All LP 9 defibrillator/monitors in use with software version 1.10 or lower may be susceptible to lock-up at power-up. This lock-up completely disables the unit from use .... An MDR report has not been filed for any of the reported occurrences of total lock-up of LP 9 units."

"LIFEPAK 9 and LIFEPAK 10 units in the field contain a component from a specific manufacturer that was found to be questionable/defective. Failure of this component can cause units to fail resulting in a failure to charge."

"The last previous GMP inspection of 6-1/7-13-88 disclosed deficiencies relating to qualification testing, complaint files, problem/cause identification, documentation ... GMP deficiencies continue to be found in a variety of areas."

2. Another comprehensive inspection, conducted from September 10, 1990 to February 27, 1991 resulted in a 52-page summary of findings. Included are the following:

In reference to the Lifepak 10, "[I]t was determined that the incorrect part 201511-001 was pulled from stock instead of the correct part 201511-000. Both parts were physically located next to each other. The operator of the auto inserter did not notice they were the wrong parts and placed them into the bin for insertion, mixing them with correct parts."

Referring to the Lifepak 5, "This assignment, which is attached, characterizes 4 broad areas considered as major problems identified from MDR reports for this model: electrical failures, battery problems, arcing and specific manufacturing and component failures."

3. The most recent comprehensive inspection occurred from November 25, 1991 to May 14, 1992, resulting in a 66-page summary of findings. "The current inspection found the firm continuing to operate with GMP deficiencies in various areas. Those areas include quality assurance audits, critical component identification, receiving and acceptance of critical components, manufacturing specifications, investigation of failures at finished device testing, investigation of failures after distribution....In addition, MDR malfunction reports were not submitted when in-house remedial actions were taken. Deficiencies in the above areas are related to overall operations covering all products."

"The distribution of LP [Lifepak] 300 units continued after 8-6-91 despite 4 field failures and 6 production failures attributed to part 805119-01 resulting in a constant Motion Detected condition."[2]

"Failures of 202168-008 can result in a LP 300 unit failing to power up. There have been a total of 18 field failures and 11 replacements in the production line of this part.... The

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[2] Note the similarity between this problem and the reasons for class I recall Z-868-2 discussed below at p. 5.

distribution of LP 300s continued after 1-21-92 despite 5 production line failures and 1 field failure."

"Production and distribution of LP 10 and LP 300 units using part 202155-000 continued while repeated failures of the part were being investigated. Use of the part has continued after the investigation determined they may contain potential manufacturing defects consisting of lead bonding fractures. No restriction has been placed on the distribution of units containing these questionable parts."

As a result of this comprehensive inspection, Physio-Control closed down its defibrillator production lines on May 15, 1992, and stopped shipping defibrillators shortly thereafter. The company was subsequently enjoined from the manufacture and sale of all products under the terms of the previously mentioned consent decree between FDA and Physio-Control entered on July 21, 1992.

III. RECALLS OF PHYSIO-CONTROL PRODUCTS

Since 1985, Physio-Control has carried out approximately 30 recalls and safety alerts, 25 of which involved defibrillator products. Several of these have been Class I recalls, meaning that the product poses a reasonable probability of serious adverse health consequences or death. The recalls have encompassed every model of defibrillators. The following is a partial list of recalls and safety alerts, showing 7 class I recalls, 13 class II recalls, 4 class III recalls, and 4 safety alerts, i.e., voluntary notification to inform professionals that a device may present an unreasonable risk of substantial harm to the public health.

03/05/93 - M-033-2, Cables/adapters - Safety Alert
09/08/92 - Z-868-2, Lifepak 300 - **Class I Recall**
04/06/92 - Z-867-2, Lifepak 300 - **Class I Recall**
07/17/91 - Z-840-1, Lifepak 10 - Class II Recall
06/19/91 - Z-739-1, Lifepak 10 - Class II Recall
04/12/91 - Z-739-1, Lifepak 10 - Class II Recall
03/27/91 - Z-455-1, Lifepak 10 - Class III Recall
01/09/91 - Z-475-1, Lifepak 10 - **Class I Recall**
11/12/90 - Z-244-1, Lifepak 10 - Class II Recall
11/09/90 - Z-238-1, Lifepak 9 - Class II Recall
09/01/90 - Z-081-1, Lifepak 9 - Class II Recall
06/13/90 - Z-072-1, LP 9 Internal Paddles - **Class I Recall**
06/04/90 - Z-649-0, Lifepak 10 - Class II Recall
04/30/90 - Z-563-0, Lifepak 10 - Class II Recall
11/15/89 - Z-291-0, Lifepak Quikpace Pacer, Class II Recall
02/13/89 - Z-353-9, Lifepak 8 - Class II Recall
01/14/88 - M-023-8, Lifepak 5 - Safety Alert
12/05/86 - Z-110-7, LP 8 Pacing Cable - Class III Recall
04/29/86 - Z-514-6, LP 8 Pacing Cable - Class III Recall
05/09/86 - M-123-6, Cables/adaptor - Safety Alert
03/06/86 - M-023-6, Internal Defibrillator Paddles - Safety Alert
12/06/85 - Z-152-6, Lifepak 8 - Class III Recall

10/18/85 - Z-236-6, Lifepak 8 - Class II Recall
09/06/85 - Z-550-5, LP 8 Pacing Cassette - Class II Recall
05/30/85 - Z-426-5, Battery Pack - Class II Recall
05/15/85 - Z-302-5, LP 5 Battery Pack - **Class I Recall**
05/15/85 - Z-303-5, Lifepak 6 & 6S - **Class I Recall**
05/15/85 - Z-304-5, Lifepak 7 - **Class I Recall**

FDA has been aware of defects with Physio-Control devices since 1985. Recalls are meant to eliminate the danger posed by devices, either by repairing the defects in the field, or by returning the devices to the manufacturer for repair or replacement. But in spite of numerous recalls, patients are still being exposed to defective Physio-Control defibrillators and pacemakers, as evidenced by FDA's almost daily receipt of reports of deaths and malfunctions attributable to Physio-Control devices.

There are two possible explanations for the failure of these recall efforts. Either (a) the recalls were not effectively or completely carried out, or (b) many of the devices which have failed since January 1, 1992 were not subject to recalls. In either case, there has been poor follow-up to complaints and recalls at Physio-Control, and this was found repeatedly during facility inspections. For example, the comprehensive inspection of 9/10/90-2/27/91 found that, "[t]he corrective action initiated in 6-19-90 for date code 3-90 internal cables had only located/tested 88 of the 142 possible cables as of 10-2-90 .... This item involves a lack of monitoring of a corrective action to assure timely completion."

To further illustrate the ineffectiveness of Physio-Control recalls, it is useful to examine the recent Class I Recalls of the Lifepak 300 automatic advisory defibrillator. The first recall, No. Z-868-2, was for serial numbers starting with 337 and ending with 3460 (not continuous), due to the potential for a hybrid circuit to fail and cause the instrument to display continuous motion detection alarms, rendering it inoperable in the automatic mode. This recall was considered completed as of 9-8-92.

The second Lifepak 300 recall, No. Z-867-2 was for Part No. 804900-, all dash numbers and serial numbers shipped after November 4, 1991, due to the fact that the Q12 electrical component (Part No. 202168, date code 9137) could fail during use, causing the Lifepak 300 to be inoperative. This recall was considered completed as of 11-12-92.

From September 8, 1992, the date of completion of the first recall (for inappropriate "motion detected" alarm), through March 31, 1993, there were 53 MDR reports of defective Lifepak 300 defibrillators. 16 deaths were associated with the devices (9 reported as deaths and 7 reported as malfunctions although deaths occurred). 10 of the reports state that the malfunction consisted of an inappropriate "motion detected" alarm. One such report, MDR

#331954, stated,

> "the patient went into ventricular fibrillation. The ambulance was pulled over to the side of the road. When the analyze button on the defibrillator was pressed, the unit reportedly inappropriately displayed 'motion detected.' The engine of the ambulance was shut off in an unsuccessful attempt to correct the situation. A back-up automatic advisory defibrillator was made available and used. The patient was not resuscitated."

This incident was reported to FDA as a malfunction on December 2, 1992. The problem encountered is the same one addressed in Recall No. Z-868-2, which was supposedly completed September 8, 1992.

Since November 12, 1992, the latter of the two recall "completion" dates, there have been 26 MDR reports submitted for defective Lifepak 300 defibrillators. There were 7 deaths and 19 malfunctions reported. However, upon closer scrutiny, 6 of the 19 "malfunctions" were actually associated with patient deaths. Thus, 13 deaths have been associated with use of a defective Lifepak 300 since the last recall was supposedly completed.

IV. DISCREPANCIES BETWEEN ADVERSE EVENTS AS REPORTED AND AS THEY ACTUALLY OCCURRED

According to MDR reports submitted to FDA by Physio-Control, there have been 142 deaths associated with defective Physio-Control devices from January 1, 1992 through March 31, 1993. We have examined the narratives submitted with each MDR report, and found an additional 180 deaths which were reported by the company as "malfunctions," although the patients were found soon after cardiopulmonary arrest, in ventricular fibrillation, and (1) the Lifepak defibrillator would not charge up or discharge a shock to the patient, or (2) the patient was shocked, and placed on a Lifepak pacemaker which suddenly stopped pacing. A typical report of this kind, MDR #268935, states:

> "Paramedics responded to a male pt. described in cardiac arrest. The device was connected to the pt. at which time a diagnosis of ventricular fibrillation was made .... The operator then charged the defibrillator. The operator pushed both paddle transfer buttons after the device successfully completed charge but reportedly the device would not discharge. The device failed to discharge on two more subsequent attempts .... The patient was not resuscitated. The rptr. stated the reported malfunction did not cause or contribute to the pt.'s death."

Thus there were 180 reports where a faulty device was used and the patient was not resuscitated, yet the company reported the

incident as a mere "malfunction." This is misleading, because the term malfunction should be used only where no serious injuries or deaths occurred in association with the use of a defective device.[3]

There are yet an additional 86 reports where the patient was in cardiopulmonary arrest, resuscitation was attempted with a Lifepak device which failed to charge, discharge or otherwise function properly, and the patient was successfully resuscitated with a backup device which functioned properly. Had these backup devices not been available, many of these events may have ended in death.

V. HRG'S CONCERNS AND REQUEST FOR RELIEF

The MDR reports indicate that malfunctions and deaths have occurred in every model of Physio-Control Lifepak defibrillators. This suggests that the GMP problems were pervasive in the manufacturing facility, a conclusion supported by FDA inspection reports and recalls. Certain Physio-Control employees attempted to conceal the extent of the problems with the devices from FDA inspectors. For example, the summary from the November 1989 inspection includes the following:

1. "The firm also refused to provide information concerning field corrective actions that have been made."

2. "At various times during the inspection, Mr. Willingham [Physio-Control's Regulatory Affairs Manager] questioned or refused to provide information and/or records which he did not consider to be available to the FDA. These refusals included any field corrective actions through TSU's (Technical Service Updates) which were directed to be performed on a mandatory basis on their products. I explained to Mr. Willingham that if the TSU's are used to effect product corrective actions they are part of the firm's overall quality assurance program to identify problems and implement corrective actions, and such documents should be available to the FDA. Mr. Willingham did not agree and again refused access."

3. "Specifically Mr. Willingham was also asked to provide any mandatory Technical Service Updates between number 131 to present. Again Mr. Willingham refused to provide any documents."

During the 9/10/90-2/27/91 inspection, the following occurred: "Access to service records in general was originally refused by Mr. Willingham, citing there was no requirement providing access by

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[3] 21 C.F.R. section 803.24(a)(1). There were also reports indicating that a patient was not viable during resuscitation attempts, because he/she was "already dead," or had arrested a long time before resuscitation was attempted. These cases are <u>not</u> included among the 180 that we characterize as having been inaccurately reported as malfunctions.

FDA.... Mr. G. Anderson [Physio-Control's President and CEO] verbally refused access at the conclusion of the meeting, and in a letter dated 10-16-90, which is attached as exhibit 11."

"The firm subsequently agreed to provide access to records."

When the withheld records were produced, they documented numerous customer complaints of device malfunctions with the Lifepaks 5 and 10, which the firm had failed to include in the complaint file and submit as MDR. Yet no civil or criminal penalties have been assessed against the firm for these attempts to conceal evidence of defects. The company was not enjoined from further manufacture or distribution of its products until July, 1992.

Malfunctions and deaths continue to occur because of defects in all models of Physio-Control products. We request an explanation from FDA for the following : (a) despite FDA's knowledge of serious GMP and MDR violations in 1988, the agency did not pursue sanctions against the company until the injunction was obtained in 1992 (civil money penalties became available in 1990), b) malfunctions and deaths continue to occur in all models of Physio-Control products, and (c) FDA allowed the company to resume production and shipment of the Lifepak 10, although the agency knew of defects in the devices. In addition, we strongly urge criminal prosecution against Physio-Control for its widespread and ongoing noncompliance with GMP and MDR violations.

Sincerely,

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