JSA
THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY
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Notable Event

Event Title: ENG-21-0125 Tennis Elbow DART Case

Date Submitted: 02/04/2021 03:45:28 PM **Response Owner:** Vince Pope (vpope)
Category: Personnel Safety **Date of Occurrence:** 01/25/2021 10:00 am **Event Location:** 90
Date Notable Event Report is Due: 02/08/2021

Short Summary of Event and/or Injuries

A Machine Shop employee developed tennis elbow and was given work restrictions. The majority of his assigned work for the previous three weeks had been on a manual lathe, which required intermittent gripping, pulling and manual adjustments.

Details of the Event and/or Injuries

On January 25, 2021, a Jefferson Lab Machine Shop employee was diagnosed with tennis elbow in his right (dominant) arm. The initial diagnosis was from an external medical provider and was then confirmed by Occupational Medicine. He was placed on work restrictions. The case was classified as a DART (Days Away, Restricted or Transferred) and was subsequently reported into the DOE CAIRS database (case 21-025).

The majority of the Machine Shop work queue from January 4-25 assignable to the injured employee was manual lathe specific. The work pieces for this machine are typically not heavy but require significant manual interactions, including drilling, cheater bar use, chuck tightening, adjustment of knobs and levers and movement of tail stock (up to 20lbs). Additionally, the typical work piece takes four hours from start to finish. The employee intermittently performed other tasks on other equipment in January, but the majority of his assignable work was on the manual lathe. Prior to this, in the month of December, the employee had mostly performed CNC mill work, which is less labor intensive. It should be noted that the equipment had been moved to accomplish social distancing, but the assignable work and machine / work queue drove the event occurrence.

The employee visited an external medical provider for a pre-existing condition on Wednesday, January 13. In this appointment, he told the provider about elbow pain, swollen knuckles and tendon roll-over. There was no follow up discussion with the Supervisor or JLab OCCMED nor were restrictions given at that time by the external provider. The Supervisor and Employee had a discussion on work type and volume soon after, but there was no direct mention or implication of pain or a pending injury. There was no further communication on the topic until the employee gave the Supervisor the externally prescribed work restrictions on the morning of Monday, January 25.

Investigation of this event determined that the change in assigned equipment as well as the expected time required to work down the backlog did not prompt a WPC review or a subsequent change to controls, with the objective of preventing the repetitive motion injury.

Note: a review of previous notable events shows that there have been four other investigations for "tennis elbow" dating back to 2013. All of the root causes were related to ergonomics. Dates for the issues were 2013 (two Notable Events), 2016 and 2020.

Causal Analysis

Judgement of Needs

Doe Cause Code: A4,B3,C08 Job scoping did not identify special circumstances and/or conditions
Risk Code: 2

There was not an established prompt or process for the Supervisor and or Employee to recognize and properly mitigate circumstances that could lead to repetitive motion injuries.

Corrective Action:

Action Owner(s): Vince Pope **Due Date:** 04/01/2021

Develop, implement or revise an existing work planning process that takes into account work queue, employee machine and task proficiency, and expected length of time for work to be completed. If appropriate, include relief measures such as task rotation, alternate tool use and programmed rest breaks.

Evidence of completion: Process that includes above features.

Corrective Action:

Action Owner(s): Will Oren **Due Date:** 03/19/2021

Communicate to all major department meetings the expectation that employees who suspect or are experiencing pain due to work are to promptly communicate this to the supervisor.

Evidence of completion: List of meetings and general information communicated.

Corrective Action:

Action Owner(s): Will Oren **Due Date:** 05/14/2021

"Ergonomics of the upper body" awareness training outline for supervisors and employees so that they can better recognize and thus plan to prevent ergonomic issues encountered while on the job or when planning work. Work with OCCMED to create this outline and deliver to Training for creation and release.

Evidence of completion: Outline and evidence of delivery to Training for creation and release.

Corrective Action:

Action Owner(s): Tish Creery **Due Date:** 10/29/2021

Create and post "Ergonomics of the upper body" awareness training from the outline delivered by the Engineering AD and OCCMED. Work with Engineering AD and OCCMED to ensure the created content aligns with the outline provided.

Evidence of Completion: created and posted Training (posted to the Training website).

Root Cause

There was not an established prompt or process for the Supervisor and or Employee to recognize and properly mitigate circumstances that could lead to repetitive motion injuries.

Contributing Cause

The employee did not tell the Supervisor that he was experiencing elbow pain, as discussed with the external medical provider (DOE Cause Code: A5 B4 C06 - Communication Less than Adequate / Verbal Communication Less than Adequate / Suspected Problems not Communicated to Supervision)

Extent of Condition Check

Risk Code: 2

There are four other "tennis elbow" injury notable events dating back to 2013. All that were in the Notable Event database had a root cause related to ergonomics being less than adequate. The specific events are:

1) ACC-20-0908 (SRF Buffing activities, not in the NE database as of this entry),
2) ENG-16-0223 (https://www.jlab.org/div_dept/dir_off/oa/notable/secure/final%20eng-16-0223.pdf),

3) ENG-13-0508 (https://www.jlab.org/div_dept/dir_off/oa/notable/secure/ENG-13-0508%20Tennis%20Elbow%20Final.pdf) and
4) ENG-13-0507 (https://www.jlab.org/div_dept/dir_off/oa/notable/secure/ENG-13-0507.pdf).

Does this event involve failed equipment? NO

Is there similar equipment in other areas? YES

Corrective Action:

Action Owner(s): Steve Smith **Due Date:** 05/28/2021

Conduct an extent of condition on all previous ergonomic related work restriction cases for commonalities. Perform a causal analysis as appropriate, determine actions going forward and assign / enter into CATS.

Relevant Notable Events are:
1) ACC-20-0908 (SRF Buffing activities, not in the NE database as of this entry),
2) ENG-16-0223 (https://www.jlab.org/div_dept/dir_off/oa/notable/secure/final%20eng-16-0223.pdf),
3) ENG-13-0508 (https://www.jlab.org/div_dept/dir_off/oa/notable/secure/ENG-13-0508%20Tennis%20Elbow%20Final.pdf) and
4) ENG-13-0507 (https://www.jlab.org/div_dept/dir_off/oa/notable/secure/ENG-13-0507.pdf).

Records, Documents, Pictures, and Other References

[No Data]

Emergency Notifications Made (Subsequent to the Event)

Occupational Medicine (269-7539): 01/25/2021

Documentation of Findings

Notable Event Number: ENG-21-0125 **CATS Number:** NE-2021-01 **Lessons Learned Number:** [No Data]
ORPS Number: NA **NTS Number:** NA **CAIRS Entry:** 21-025
DOE Cause Code: A4B3C08 **ISM Code:** 2, Analyze the Hazards

Signatures

Investigation Team	Steve Smith (sjsmith)	02/04/2021 03:46:01 PM
Investigation Team	Vince Pope (vpope)	02/04/2021 05:00:52 PM
Associate Director / Department Manager	Will Oren (oren)	02/05/2021 09:09:11 AM

Jefferson Lab

SAFETY FLASH

EVENT: REPETITIVE WORK INJURY TO EMPLOYEE

DATE/TIME OF EVENT: JANUARY 25, 2021

EVENT DESCRIPTION:

On January 25, 2021, a Jefferson Lab employee working in the machine shop reported to Occupational Medicine they were experiencing right elbow pain. This report followed a diagnosis of tennis elbow by the employees personal physician. Upon evaluating the employee, Occupational Medicine placed the

employee on medical restrictions while they recover. Full recovery is expected in time.

Investigation of this event determined the employee and supervisor did not recognize that a change in assigned equipment required additional controls to prevent a repetitive motion injury. Due to the need of increased space between workers in the machine shop to meet the COVID-19 safety controls, the employee was tasked with using a different machine than the one they were accustomed to. The assigned machine was a manual lathe that required repetitive and awkward lifting, moving and adjustments of parts weighing up to 20 pounds.

EVENT IMPACT:

- Minor injury to employee. Full recovery is expected.
- Temporary loss of full capability of a machine shop worker with associated loss of production.

LESSONS LEARNED:

- Any change in the type or usage of machinery, tools or even standard office equipment that involves repetitive motion requires thoughtful evaluation of the ergonomic impact by the employee and supervisor. Adjustments in work or the use of additional controls may be required to prevent repetitive motion injury. Consult Occupational Medicine if you need assistance in evaluating ergonomics.
- Early reporting of discomfort can lead to effective case management and the development of a preventative plan that includes the even distribution of tasks within your work group.
- COVID-19 safety controls can have unintended consequences and should trigger reassessment of work practices by employees and supervisors.

WHAT WENT RIGHT?

- The employee reported their diagnosis to Occupational Medicine immediately following the diagnosis by their personal physician.

Attachment: "RCA Diagram ENG-21-0125.xlsx" could not be added.