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Best Practices in Promoting a Workplace Culture of Employee Well-being

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Wellness Program Manager

Hitachi Astemo Americas, Inc.

August 23, 2022

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Agenda

Hitachi Overview

Building a Foundation

360 Degree Wellness Approach

Developing an Ergonomics Program

Evaluating Outcomes

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Who We Are

HITACHI
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Transportation & Mobility Solutions

Energy Solutions

IT Infrastructure Services

Social Infrastructure: Industrial Products

Healthcare & Lifesciences

Mining & Construction Machinery

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Automotive Supplier

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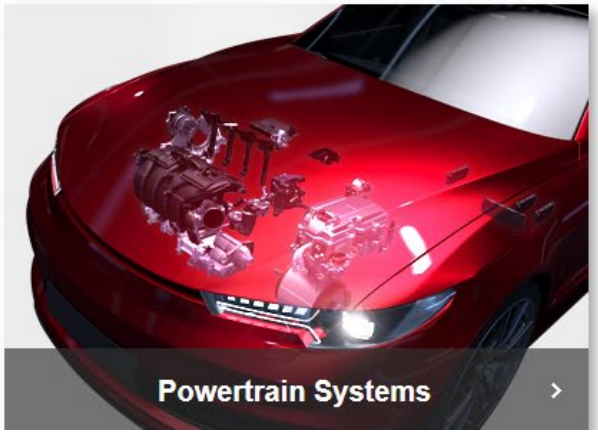

Astemo

Products Developed and Manufactured

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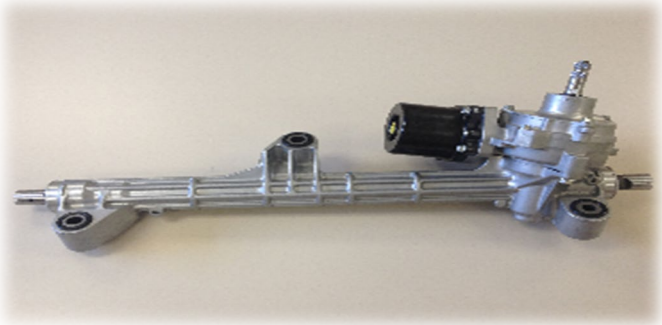
HONDA

POWER STEERING

Accord

Civic Si



CR-V

Acura MDX

MOTOR HARLEY-DAVIDSON COMPANY

V-ROD

FLT

XL

SOFTAIL

DYNA

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Our Locations

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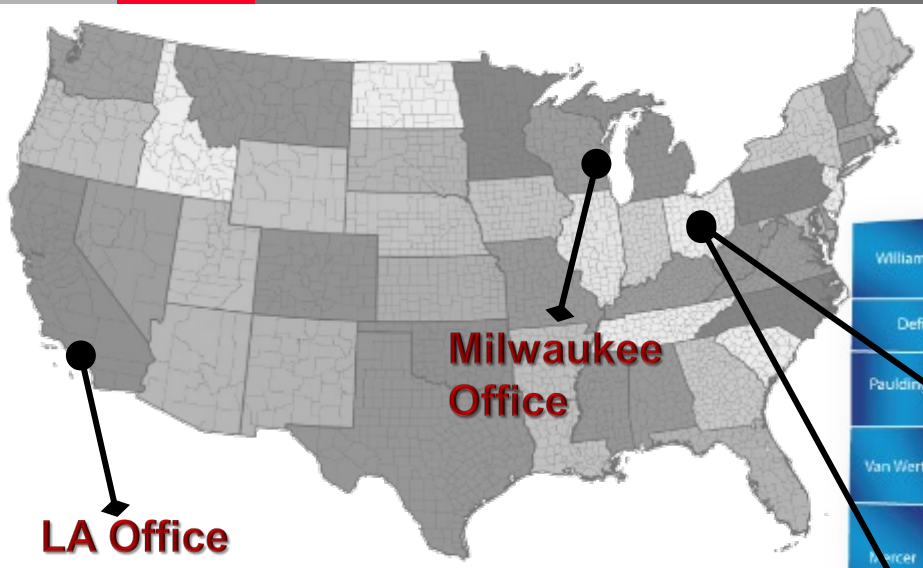

Hitachi Astemo Americas, Inc.

24,000 Employees US wide
750 Employees in Ohio
Self-Insured
Industry: Manufacturing

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Our Commitment to Health & Safety

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Ranked #1 as a Healthiest Employer in Cincinnati & Columbus, OH

(500-1,499 Employee Category)

Recognition given by:

- Healthiest Employers, LLC
- Ohio Department of Health
- American Heart Association
- Cincinnati Business Courier

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2021 HEALTHIEST 100™
scored by Springbuk®

·H100·

2021 Winner

#26

Hitachi Astemo Ohio Manufacturing, Inc.

has been awarded the Healthiest 100 Workplaces in America award for the 2021 nomination period, signaling their commitment to employee health and wellbeing.

Haley Elmore
Healthiest Employers
Program Coordinator

Poll Survey

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What industry do you represent?

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Poll Results

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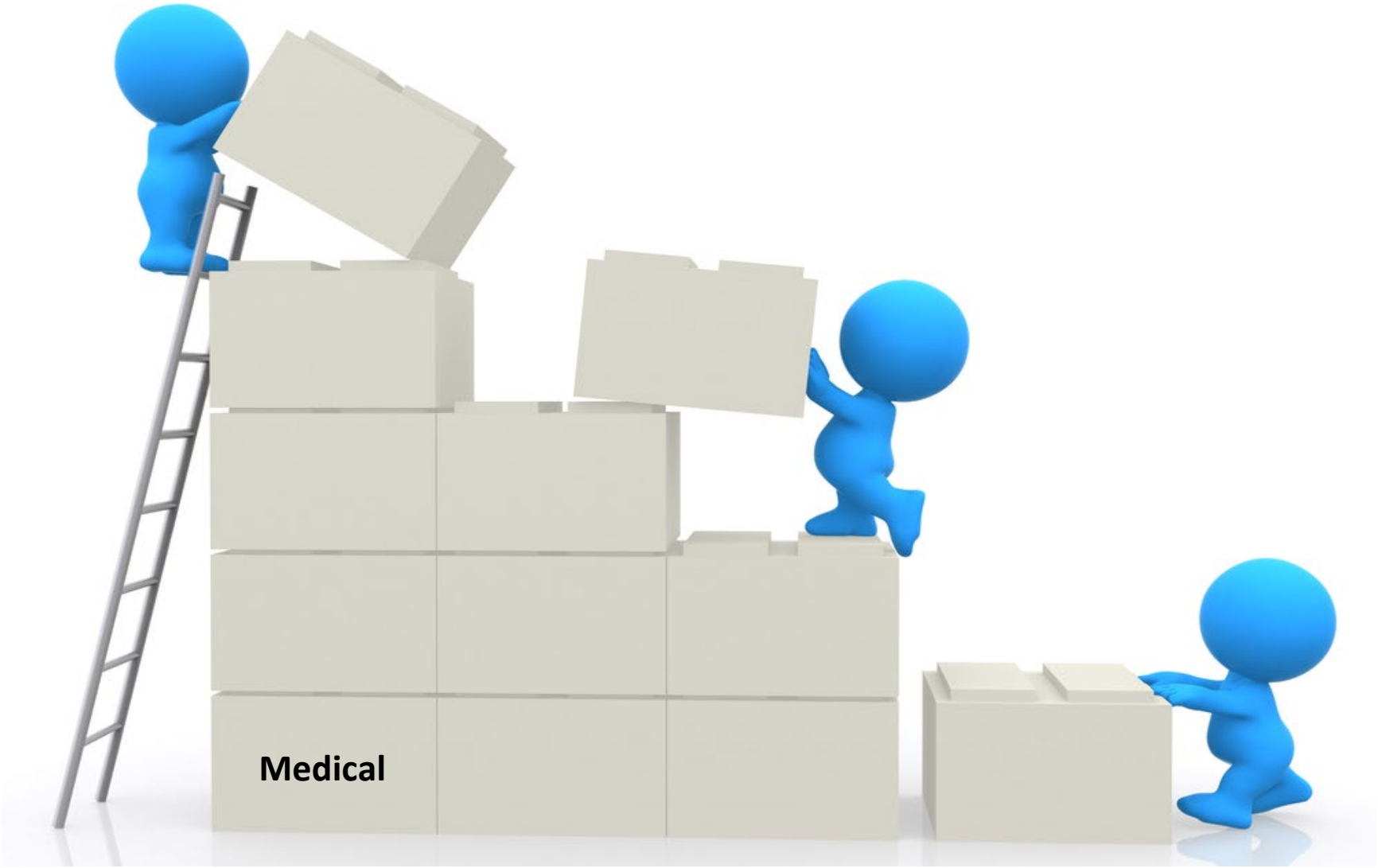
Leverage your Resources



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Associates' Wellness Center

Wellness Center Services

OUR SERVICES

- Chronic Disease Management
- Health Coaching Services
- Care for Infections & colds
- Flu & Allergy Treatments
- Well-Child Checkup
- Well-Man & Women Exams
- School & Sports Physicals
- Annual Health Screenings
- Stress Management
- Physical Therapy
- Smoking Cessation
- Routine Blood Work
- Skin Checks
- Adult Immunizations
- Minor Stitches
- Wellness Programs & more

WHO WE SERVE

The Hitachi Astemo Associates' Wellness Center is available to any associate and their covered dependents that are currently enrolled under a Medical Plan offered by Hitachi Astemo.

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Lobby

Physical Therapy

Education Room

Poll Survey

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Do you currently have a medical clinic specifically for employees and/or dependents?

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#1954217

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360 Degree Approach

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Building a Foundation

What is Ergonomics?

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Ergonomics

The Study of People's Efficiency

- Ergonomics is the study of people's efficiency and productivity in their working environment.
- Defined as the science of fitting a workplace to the user's needs, **ergonomics aims to reduce discomfort**.
- Ergonomics (or 'human factors' as it is referred to in North America) is a branch of science focusing on human abilities and limitations, and then applying this knowledge to improve people's interaction with products, systems and environments.

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Why is Ergonomics Important?

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1

Injury Prevention

- **Proactive vs. Reactive Approach**

→ Identifying musculoskeletal disorders and mitigating risk factors can often prevent strains, sprains and overuse injuries which is one of the top leading worker's compensation claims in the US.

2

Improves quality of work and life

- **Anthropometry & Biomechanics Research Based**

→ Ergonomics aims to create a safe, productive and comfortable workspace by bringing human abilities and limitations into the design aspect.

3

Reduces fatigue and discomfort

- **Workstation Design**

→ Includes the individual's body size, strength, skill, speed, and sensory abilities (vision, hearing).

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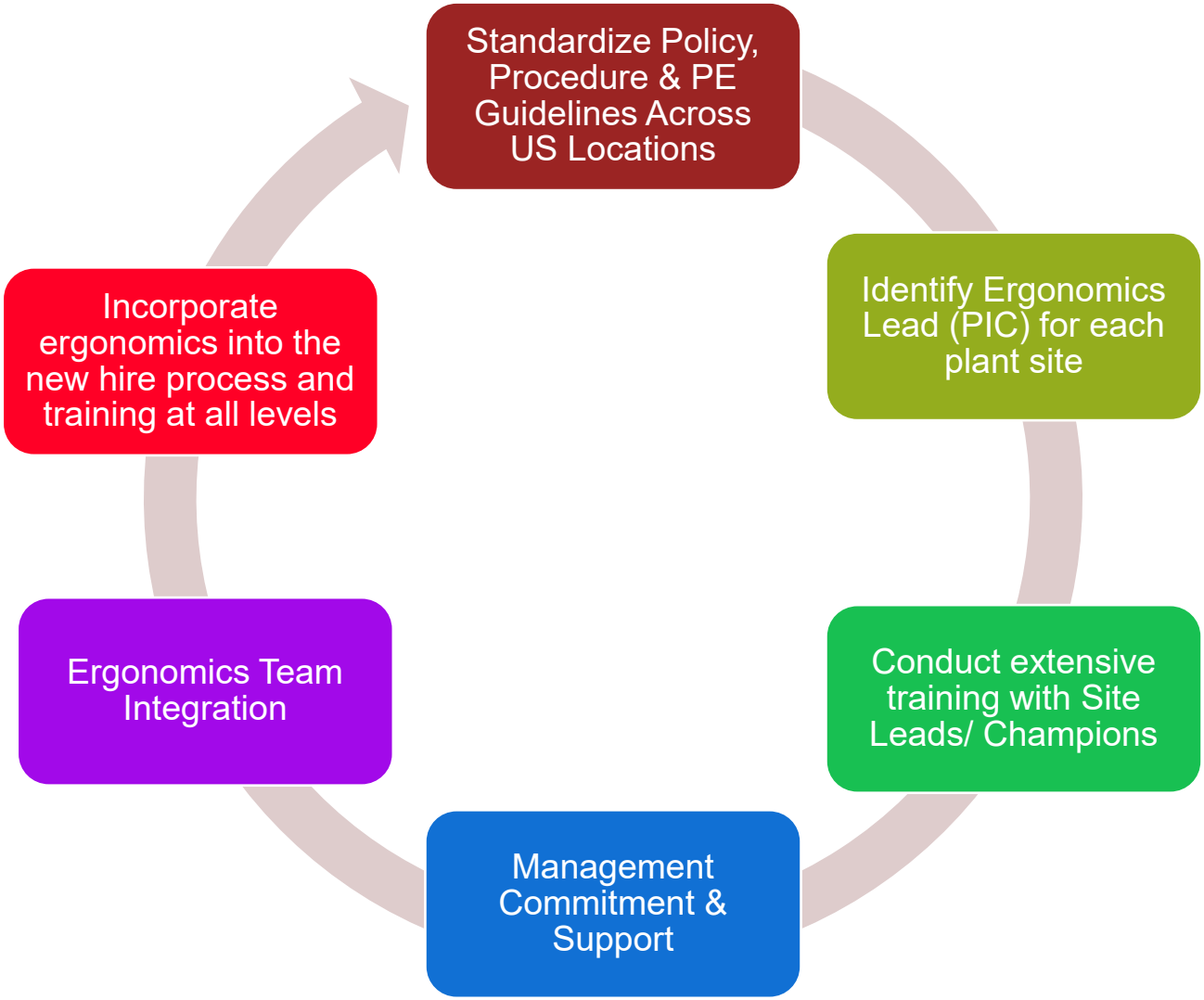
Hitachi Ergonomic Program Implementation



Recognizing Concerns

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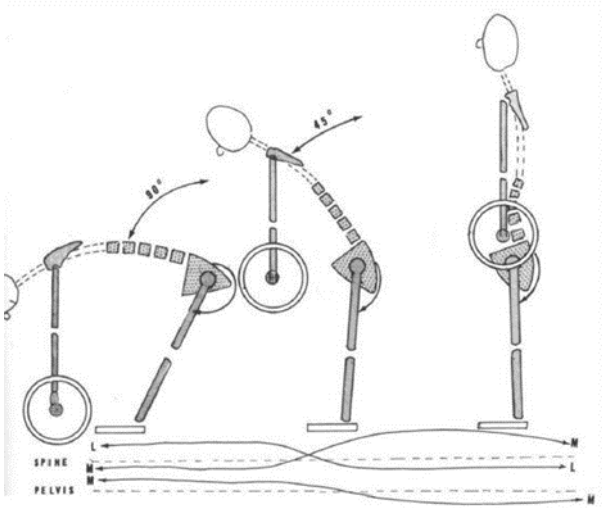
Injuries of the musculoskeletal and nervous systems that may be caused by

- Repetitive Tasks
- Forceful Exertions (Push/Pull)
- Vibrations
- Mechanical Compression/Contact Stress (pressing against hard surfaces)
- Awkward Positions/Excessive Reaching
- Turning/ Twisting of Torso



Other names for Cumulative Trauma Disorders **CTDs** are:

- **Musculoskeletal Disorders (MSDs)**
- Repetitive Motion Disorders (RMDs)
- Overuse Syndromes
- Repetitive Strain Injuries

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Ergonomic Standards

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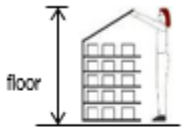
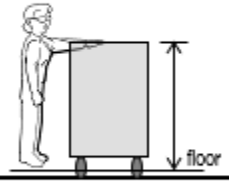
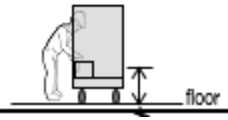
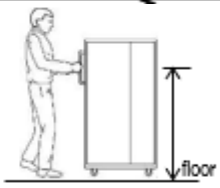
Racks/Carts	Figures	Green			Yellow			Red		
Two-Handed Push Pull (Breakaway) Force for Fully Loaded Rack/Cart	 Fully Loaded	≤	37.0	lb	43.5	lb	>	50.0	lb
		≤	16.8	kg	19.8	kg	>	22.7	kg
		≤	165	N	194	N	>	223	N
Two-Handed Push Pull (Sustained) Force for Fully Loaded Rack/Cart		≤	17.0	lb	21.0	lb	>	25.0	lb
		≤		kg	9.5	kg	>	11.4	kg
		≤	76	N	94	N	>	111	N
Maximum Reach During Cart Use (e.g., closing top shelf) Horizontal reach should be ≤ 10-12 in., measured from front of cart		≤	61.0	in	64.5	in	>	68.0	in
		≤	1,549	mm	1,638	mm	>	1,727	mm
Reach Up to Top Shelf (palms facing down)		≤	50.0	in	52.5	in	>	55.0	in
		≤	1,270	mm	1,334	mm	>	1,397	mm
Reach Up to Top Shelf (palms facing up)		≤	50.0	in	55.5	in	>	61.0	in
		≤	1,270	mm	1,410	mm	>	1,549	mm
Reach Down to Bottom Shelf		≥	29.0	in	23.5	in	<	18.0	in
		≥	737	mm	597	mm	<	457	mm
Handle Height (vertical orientation preferred) (if horizontal handles, use 40-44 in.) In some cases, the cart itself (frame or shelving) may provide a suitable handle.		≥	36.0	in			<	36.0	in
		≥	914	mm			<	914	mm
		≤	44.0	in			>	44.0	in
		≤	1,118	mm			>	1,118	mm

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Production Engineering Check Sheet

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Job Process: Department Affected: Description of Change:

Item		Select appropriate answer from drop-down	Action Required
1	Will the operator be exposed to temperatures < 40° F or >90° F		These are general job requirements to be aware of when changing or implementing a process. If any of these are "Red" you must consult an ergonomics representative prior to the implementation of the new process.
2	Are high priority displays mounted between 42-62" for standing work or 22-32" above seat height for seated work?		
3	If palm button controls are used repetitively, are they located below chest height (preferably at waist height)?		
4	How much will the employee need to work lying on their back or side?		
5	Does the employee need to kneel with one or two knees touching the ground to support their body while on this job process?	Yes	If kneeling cannot be eliminated, knee guards must be supplied to the associate(s). See contact stress guideline SAF ERG 24.
6	Will sharp objects, tools or parts of work station put localized pressure on the trunk or lower extremities?	Yes	Usually caused by reaching to get parts. Eliminate with a new container design, lift/ tilt table, turn table or layout improvement. Reference SAF ERG 24.
7	Will hard or sharp objects, tools, or parts of the work station put localized pressure on a small area of the forearm, elbow and/or armpit?	Yes	Eliminate localized pressure with a new container, lift/tilt table, turn table or layout. Otherwise, elbow/forearm pads or installation of padding to the object being leaned onto may be

Example

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Identifying Risk Factors-EG000021

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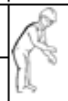
Example

HITACHI ASTEMO ERGONOMICS QUICK CHECKLIST

Department: Date:

Position: Evaluator:

This is a quick evaluation of possible risk factors at a particular process. Any red or yellow items may require further analysis using other guidelines.

Body Part		Question	View	Green	Yellow (mid point)	Red
		Circle One Answer For Each Question In The Appropriate Box Below				
Back	1	Is there severe Back Bending? (bent over 45° or more)		intermittent	< 1/3 of cycle or < 2 per minute	> 1/3 of cycle or > 2 per minute
	2	Are Awkward Static Postures held? (review lower/upper back, neck, shoulder, arms)		intermittent	< 10 seconds per minute	≥ 10 seconds per minute
	3	Are items weighing more 10 Lbs (4.5 kg) lifted?		no	Yes, refer to BAF ERG-18 Lifting Guidelines	
Hand/Arm	4	Are the Elbow(s) Raised above the shoulder and/or hand(s) above head?		intermittent	< 1/3 of cycle or < 2 per minute	> 1/3 of cycle or > 2 per minute
	5	How many Hand/Wrist Motions are there?		< 10 per minute	16 per minute	≥ 20 per minute
	6	What is the maximum Hand Push Forces?		≤ 9.9 lbs ≤ 4.2 kg ≤ 41.4 N	11.7 lbs 5.3 kg 52.0 N	> 14 lbs > 6.4 kg 62.3 N
	7	What is the Vibration from hand tools?		No detectable vibration	Detectable vibration	Very obvious hand shaking
	8	What is the Pinch Grip force? (It takes about 6 pounds to open a larger binder clip 1 Al Inch)		≤ 6.9 lbs ≤ 2.7 kg < 26.2 N	9.2 lbs 4.2 kg 40.9 N	> 12.6 lbs > 5.7 kg > 55.6 N
	9	Does the person use their Hand as a Hammer?		none	< 10 per hour	≥ 10 per hour
Other	10	How frequently is the associate exposed to Contact Stress? (localized pressure or force on one spot of the body)		intermittent	≤ 1/3 of cycle	≥ 1/3 of cycle
	11	Does the associate Work on their Knees or squat to work?		intermittent	≤ 1/3 of cycle	≥ 1/3 of cycle
	12	What is the Pushing/Pulling force for carts? (break-a-way force measured with wheels 90 degrees to the direction of push/pull.		≤ 37 lbs ≤ 16.8kg ≤ 164.6 N	49.6 lbs 19.8 kg 193.5 N	> 60 lbs > 22.7kg > 222.4 N
	13	Is ergonomic anti-fatigue matting located at this operation?		Yes		No
	14	If the operation has visual displays (computer screen), is it mounted 42-62 inches for standing work & 22-32 inches above seat height for seated work?		Yes		No
		Score (for prioritization purposes)	Total			

For classification purposes - if one item is red then the job is red, if one item is yellow then the job is yellow, if all items are green then the job is green. Go to page 2 to complete the recommendations section as applicable.

EG000021 Page 1 of 2 Last Updated 9/20/21

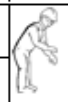
Completed Eval: Grinder Wheel

HITACHI ASTEMO ERGONOMICS QUICK CHECKLIST

Job Process: Manually flipping all grinder wheels Date: 10.18.21

Position: Grinder Teoh/Iolan Evaluator: Jillian Jacobs

This is a quick evaluation of possible risk factors at a particular process. Any red or yellow items may require further analysis using other guidelines.

Body Part		Question	View	Green	Yellow (mid point)	Red
		Circle One Answer For Each Question In The Appropriate Box Below				
Back	1	Is there severe Back Bending? (bent over 45° or more)		intermittent	< 1/3 of cycle or < 2 per minute	> 1/3 of cycle or > 2 per minute
	2	Are Awkward Static Postures held? (review lower/upper back, neck, shoulder, arms)		intermittent	< 10 seconds per minute	≥ 10 seconds per minute
	3	Are items weighing more 10 Lbs (4.5 kg) lifted?		no	Yes, refer to BAF ERG-18 Lifting Guidelines	
Hand/Arm	4	Are the Elbow(s) Raised above the shoulder and/or hand(s) above head?		intermittent	< 1/3 of cycle or < 2 per minute	> 1/3 of cycle or > 2 per minute
	5	How many Hand/Wrist Motions are there?		< 10 per minute	16 per minute	≥ 20 per minute
	6	What is the maximum Hand Push Forces?		≤ 9.9 lbs ≤ 4.2 kg ≤ 41.4 N	11.7 lbs 5.3 kg 52.0 N	> 14 lbs > 6.4 kg 62.3 N
	7	What is the Vibration from hand tools?		No detectable vibration	Detectable vibration	Very obvious hand shaking
	8	What is the Pinch Grip force? (It takes about 6 pounds to open a larger binder clip 1 Al Inch)		≤ 6.9 lbs ≤ 2.7 kg < 26.2 N	9.2 lbs 4.2 kg 40.9 N	> 12.6 lbs > 5.7 kg > 55.6 N
	9	Does the person use their Hand as a Hammer?		none	< 10 per hour	≥ 10 per hour
Other	10	How frequently is the associate exposed to Contact Stress? (localized pressure or force on one spot of the body)		intermittent	≤ 1/3 of cycle	≥ 1/3 of cycle
	11	Does the associate Work on their Knees or squat to work?		intermittent	≤ 1/3 of cycle	≥ 1/3 of cycle
	12	What is the Pushing/Pulling force for carts? (break-a-way force measured with wheels 90 degrees to the direction of push/pull.		≤ 37 lbs ≤ 16.8kg ≤ 164.6 N	49.6 lbs 19.8 kg 193.5 N	> 60 lbs > 22.7kg > 222.4 N
	13	Is ergonomic anti-fatigue matting located at this operation?		Yes	N/A	No
	14	If the operation has visual displays (computer screen), is it mounted 42-62 inches for standing work & 22-32 inches above seat height for seated work?		Yes	N/A	No
		Score (for prioritization purposes)	Total	11	1	2

For classification purposes - if one item is red then the job is red, if one item is yellow then the job is yellow, if all items are green then the job is green. Go to page 2 to complete the recommendations section as applicable.

EG000021 Page 1 of 2 Last Updated 9/20/21

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Ergonomic Improvement Program

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Department: Assembly #1 — Date: 6/29/22
Position: Material Service Cylinder Load — Evaluator: Jillian Jacobs

This is a quick evaluation of possible risk factors at a particular process. Any red or yellow items may require further analysis using other guidelines.

Body Part		Circle One Answer For Each Question In The Appropriate Box Below Question	View	Green	Yellow (mid point)	Red
Back	1	Is there severe **Back Bending?** (bent over 45° or more)		intermittent	< 1/3 of cycle or < 2 per minute	> 1/3 of cycle or > 2 per minute
	2	Are **Awkward Static Postures** held? (review lower/upper back,, neck, shoulder, arms)		intermittent	< 10 seconds per minute	≥ 10 seconds per minute
	3	Are items weighing more 10 Lbs (4.5 kg) lifted?		no	Yes, refer to SAF ERG-13 Lifting Guidelines	
Hand/Arm	4	Are the **Elbow(s) Raised** above the shoulder and/or hand(s) above head?		intermittent	< 1/3 of cycle or < 2 per minute	> 1/3 of cycle or > 2 per minute
	5	How many Hand/**Wrist Motions** are there?		< 10 per minute	15 per minute	≥ 20 per minute
	6	What is the maximum 1 **Hand Push Forces**?		≤ 9.3 Lbs ≤ 4.2 kg ≤ 41.4 N	11.7 Lbs 5.3 kg 52.0 N	> 14 Lbs > 6.4 kg 62.3 N
	7	What is the **Vibration** from hand tools?		No detectable vibration	Detectable vibration	Very obvious hand shaking
	8	What is the **Pinch Grip** force? (it takes about 6 pounds to open a larger binder clip 1/4 inch)		≤ 5.9 Lbs ≤ 2.7kg < 26.2 N	9.2 Lbs 4.2 kg 40.9 N	> 12.5 Lbs > 5.7 kg > 55.6 N
	9	Does the person use their **Hand as a Hammer**?		none	< 10 per hour	≥ 10 per hour
Other	10	How frequently is the associate exposed to **Contact Stress**? (localized pressure or force on one spot of the body)		intermittent	≤ 1/6 of a cycle	> 1/3 of cycle
	11	Does the associate **Work on their Knees or squat to work**?		intermittent	≤ 1/6 of a cycle	≥ 1/3 of cycle
	12	What is the **Pushing/Pulling** force for carts? (break-a-way force measured with wheels 90 degrees to the direction of push/pull.		≤ 37 Lbs ≤ 16.8kg ≤164.6 N	43.5 Lbs 19.8 kg 193.5 N	> 50 Lbs > 22.7kg > 222.4 N
	13	Is ergonomic/anti-fatigue matting located at this operation?		Yes	No	
	14	If the operation has visual displays (computer screen), is it mounted 42-62 inches for standing work & 22-32 inches above seat height for seated work?		Yes		No
		Score (for prioritization purposes)	**Total**	9	4	1

For classification purposes - if one item is red then the job is red, if one item is yellow then the job is yellow, if all items are green then the job is green. Go to page 2 to complete the recommendations section as applicable.

The evaluation form is noted "Red" due to the associate retrieving parts from a bin on the floor instead of an adjustable workstation.

Goal is to have 0 yellows and 0 reds

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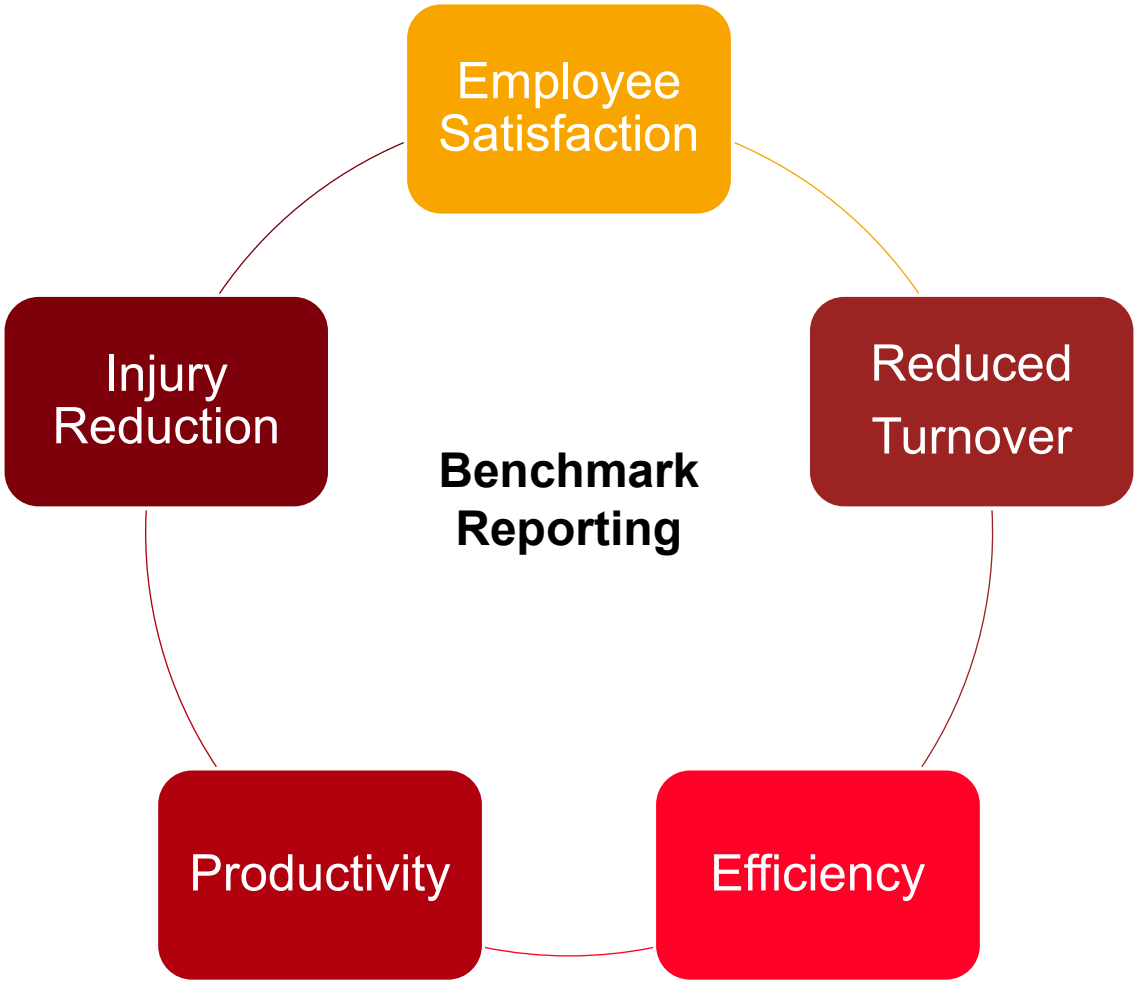
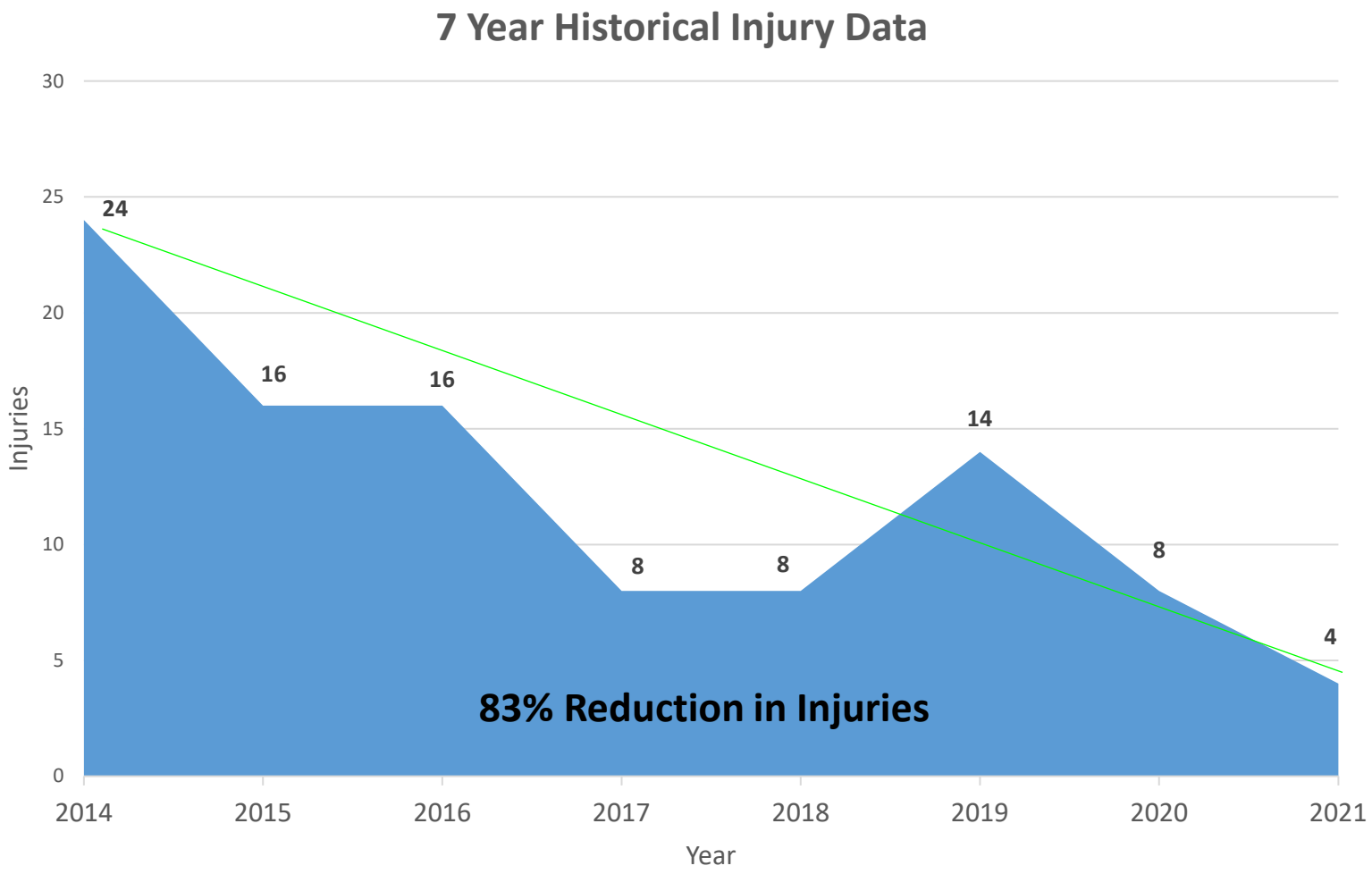
Employer Benefits



Injury Data



Type
REBA

MSD Risk

Based on
Posture 1

High 8

By Body Part

Where?

Back

3

Medium

Neck

2

Low

Joints

Left shoulder

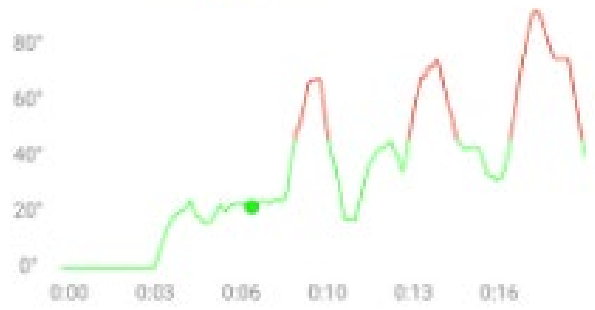
Right shoulder

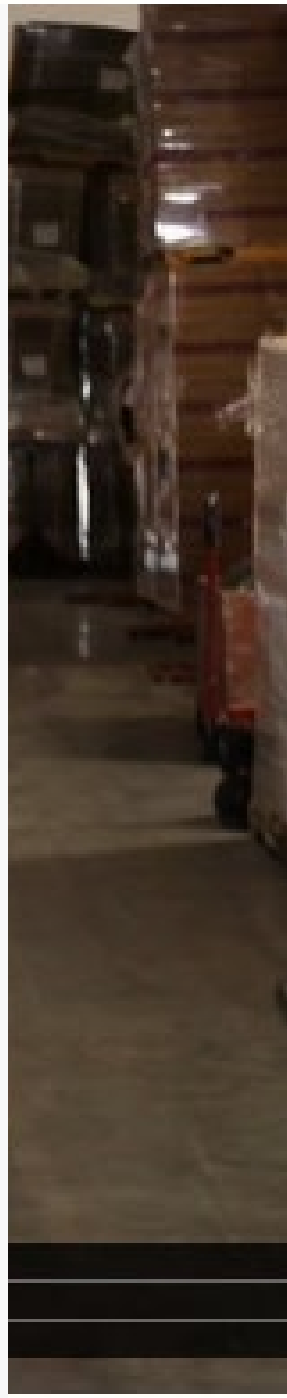
33°

22°

24°

141°





Weld #1 Ergonomic Improvement

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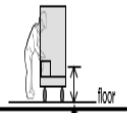
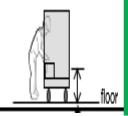
Department	Ergonomic Concern	Countermeasure
Weld 1- Material Service	Back flexion of greater than 45 degree. Awkward posture when bending down to retrieve baskets from the material service carts. Basket handle height for the 1st basket is 15". Cart top base height = 9".	Increased the cart height base from 9" to 21" on 9 total carts. Hand placement is now 27" (green zone), resulting in minimal back flexion.

Before

Racks/Carts	Figures	Green	Yellow	Red
Reach Down to Bottom Shelf		≥ 29.0 in ≥ 737 mm	23.5 in 597 mm	< 18.0 in < 457 mm

After

Cart base increased by 12".

Racks/Carts	Figures	Green	Yellow	Red
Reach Down to Bottom Shelf		≥ 29.0 in ≥ 737 mm	23.5 in 597 mm	< 18.0 in < 457 mm

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Rod Line #1 Ergonomic Improvement

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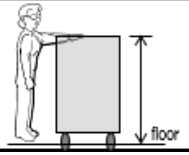
Department	Ergonomic Concern	Countermeasure
Rod Line #1	Black pallets are stacked too high (60-85" plus). This could easily result in a shoulder injury when the employee tries to retrieve the pallet from the stack.	Reduced pallet height to less than 50".

Before

After

A visual line on each column and signage for max height in this area was added.

Racks/Carts	Figures	Green	Yellow	Red
Reach Up to Top Shelf (palms facing down)		≤ 50.0 in ≤ 1,270 mm	52.5 in 1,334 mm	> 55.0 in > 1,397 mm
Reach Up to Top Shelf (palms facing up)		≤ 50.0 in ≤ 1,270 mm	55.5 in 1,410 mm	> 61.0 in > 1,549 mm

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Continue Building Your Program

Wellness Program Ideas

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Healthier Living

① A minimum of 50% Healthier Food Options in the Cafeteria
② On-site Nursing Room
③ Pre-shift Stretching
④ On-site Health Risk Assessments (HRA)
⑤ Flu Shot Clinics
⑥ Employee Appreciation Events (i.e., state Park, water park)
⑦ 100-Mile Challenge
⑧ Walk with the Doc (Q&A session with Providers)
⑨ Smoking Cessation
⑩ Virtual Fitness Classes
⑪ Massage Therapy
⑫ Virtual Counseling

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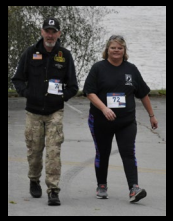
Victory for Veterans 5K Walk/Run



Impacting the Community!

New Women's Nursing Pod

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Committed & Aligned Leadership

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Leadership is the capacity to translate VISION into REALITY.

- Warren Bennis

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Agenda

Hitachi Overview

Building a Foundation

360 Degree Wellness Approach

Developing an Ergonomics Program

Evaluating Outcomes

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Evaluate Wellness Program Outcomes

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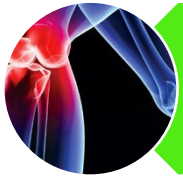
Patient Clinic Savings

Program Participation



Reduced Injuries

Biometric Risk Levels

Gaps in Care

Employee Morale

Retention Rates

Clinic Utilization

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THANK YOU

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PEOPLE WILL FORGET
WHAT YOU SAID,
PEOPLE WILL FORGET
WHAT YOU DID,
BUT PEOPLE WILL
NEVER FORGET HOW
YOU MADE THEM FEEL
MAYA ANGELOU

Biographical Information

Jillian Jacobs, Wellness Program Manager
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Jillian joined Hitachi Astemo Americas, Inc. (then named American Showa) in 2010, initially as an Exercise Physiologist and an adjunct member of the company's medical clinics staff. In 2017, Jillian accepted the role of Wellness Program Manager and now leads Showa's corporate-wide health and wellness initiatives. Her primary responsibilities include management of Showa's Wellness Centers and development and implementation of health, wellness and fitness programs for over 1,000 employees and their dependents.

Jillian also works closely with plant Safety Departments to develop education and injury risk mitigation programs and is currently initiating widespread ergonomic improvements in all areas of the company. She collaborates closely with Showa Executive Management, the corporate Wellness Centers' medical teams and current vendors, United Health Care & Care Here, to continually promote a culture of wellness for American Showa.

She initially began her career as an Exercise Physiologist and YMCA Director. Jillian is a graduate of Marshall University with a Master of Science degree in Exercise Physiology/ Cardiac Rehabilitation and B.A. in Adult Fitness. She is also a member of Wellness Councils of America (WELCOA) and Health Action Council of Ohio (HAC). Jillian is certified as an American Red Cross Instructor (CPR, AED, First Aid, BBP), ACLS Provider, Diabetic Educator and Ergonomics Assessment Specialist (CEAS).