

## LIGHT-WEIGHT MILKING CLUSTER AND TUBE

### Task Description:

During milking in a tie stall, parlour or rotary milking system the milker is lifting, holding and attaching heavy milking equipment - milking cluster (2.5 kg), tubes (1 kg) and pulsator (4 kg)

### Comments of the employee:

- ❑ *'The milking cluster is heavy to hold, lift and attach'*
- ❑ *'After 3 hours of milking my arms and shoulders aches'*
- ❑ *'Holding, lifting and attaching a couple of times is no problem - but 300 times - that is cruel'*

### MSD risks:

- ❑ The weight of the milking equipment (7.5 kg) and the extended position of the arm is a demanding work load for the upper extremities
- ❑ The milker is exposed to a static work load for several hours

### Exposed areas:

- ❑ Neck / Shoulder
- ❑ Arm / Elbow
- ❑ Hand / Wrist

### Solutions:

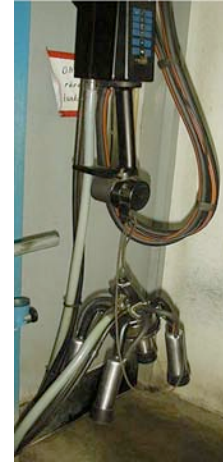
- ❑ Light-weight clusters (1.6 kg) and tubes (0.40 kg) should be used in the parlour / rotary milking system and tie stall

### Comments of the employer after installation of light-weight equipment:

- ❑ *'The milkers have less aches and pains in their shoulders and arms'*
- ❑ *'After installation of the new equipment - we have less sick leaves because of muscle pain'*
- ❑ *'Healthy workers are more happy and effective'*

### Comments from the ergonomist:

- ❑ *'Using light-weight milking cluster and tubes during milking reduces the work load up to 30% compared to traditional equipment'*



Traditional milking cluster, tubes and pulsator in a tie stall (7.5 kg)



Traditional milking cluster (2.5 kg)



Light-weight milking cluster (1.6 kg)



Light-weight milking cluster, tubes and pulsator in a tie stall (6.0 kg)

### Research references:

Stål, M & Pinzke, S. 2001. Milking with different type of milking tubes - a study of work load. (In Swedish). Mjölknig med olika typer av mjölkslangar - En belastningsstudie. Project report. Department of Agricultural Biosystems and Technology, Division of Work Science, Swedish University of Agricultural Sciences, Sweden.