

Case Study Title: Ergonomics Appraisal of Refuse Workers

Background: A Kent based district council was aiming to reduce the risk of musculoskeletal disorders their refuse workers were exposed to. An ergonomics survey was required.

One of the main issues was that the residual and recycling waste was collected manually with wheeled bin collection only conducted for garden waste. This resulted in a great deal of loading on the back with twisting and stooping occurring regularly due to manual handling. The frequency and repetition of the manual handling were also of concern. Tasks such as reaching into bins to lift bags also resulted in poor postures

There was some pushing and pulling that occurred involving both the 240 litre and the 1100 litre bins. This occurred over a range of terrains.

Ergonomic Approach Taken:

- Our chartered ergonomist conducted a field ergonomics trial to survey and observe the tasks being conducted
- Various routes and teams of refuse workers were observed
- Data was collected such as bag weights, pushing and pulling forces, distances covered and frequency and repetition rates
- Variation in techniques was observed
- Subjective feedback from a range of refuse workers was collected

Images



Analysis Methods:

- Expert ergonomics appraisal by chartered ergonomist
- MAC (Manual Handling Assessment Charts)
- ART (Assessment of Repetitive Tasks)
- Pushing and pulling force data and comparison with guidance

Outputs:

- A detailed ergonomic report was compiled with supporting images of postures observed
- Recommendations were provided for each of the tasks conducted
- Risk Assessment ratings using MAC, ART etc. were provided
- A bespoke training programme was developed to reduce the risk of musculoskeletal disorders through better manual handling techniques

Impact

- Absences and injuries from manual lifting and handling were significantly reduced by 95%
- Better lifting and handling techniques were implemented successfully by refuse workers
- Improvements resulted in a more efficient workforce reducing presenteeism
- A further improvement programme was conducted for the vehicle maintenance, litter pickers and street sweeping teams