

# AI-00031 FMEA Active Retiree at 55

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⋮ Tags	problem
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Perform an fmea of 55 years old early retiree who bike long distance in hilly mountains and downtown city street, who swims long distance at an outdoor pool and performs weight training exercise in the gym regularly and eats healthy

FMEA (Failure Mode and Effects Analysis) is a systematic approach to identifying potential failures and their impact in a given process, product or system. In this case, we will perform an FMEA for a 55-year-old early retiree who engages in regular physical activities including biking long distances in hilly mountains and downtown city streets, swimming long distances at an outdoor pool, performing weight training exercises in the gym regularly, and maintaining a healthy diet.

## Step 1: Identify potential failure modes

- Overexertion during physical activities
- Muscle strains or injuries
- Joint pain or injuries
- Dehydration or heat exhaustion during outdoor activities
- Inadequate nutrition or diet deficiencies
- Accidents or collisions while biking in downtown city streets

## Step 2: Identify potential causes for each failure mode

- Lack of proper warm-up or stretching before physical activities
- Poor technique or form during exercises or activities
- Inadequate hydration or lack of breaks during outdoor activities

- Inadequate rest or recovery time between activities
- Inadequate nutrition or unbalanced diet
- Poor visibility or lack of protective gear while biking in downtown city streets

#### Step 3: Identify potential effects for each failure mode

- Decreased performance or inability to complete physical activities
- Long-term injuries or chronic pain
- Reduced quality of life due to joint pain or injuries
- Hospitalization or serious health complications due to dehydration or heat exhaustion
- Nutritional deficiencies leading to health problems
- Severe injuries or fatalities due to accidents or collisions while biking in downtown city streets

#### Step 4: Identify potential risk levels for each failure mode

- Overexertion during physical activities - Moderate risk
- Muscle strains or injuries - Moderate risk
- Joint pain or injuries - Low risk
- Dehydration or heat exhaustion during outdoor activities - High risk
- Inadequate nutrition or diet deficiencies - Low risk
- Accidents or collisions while biking in downtown city streets - High risk

#### Step 5: Develop actions to mitigate or eliminate each potential failure mode

- Implement proper warm-up and stretching routines before physical activities
- Seek professional guidance on proper technique and form during exercises or activities
- Maintain adequate hydration and take breaks during outdoor activities
- Allow adequate rest and recovery time between activities
- Seek professional guidance on proper nutrition and maintain a balanced diet

- Use proper protective gear and follow traffic laws while biking in downtown city streets

Step 6: Implement and monitor the effectiveness of the actions

- Monitor physical activity performance and adjust warm-up and stretching routines as needed
- Seek professional guidance on technique and form and adjust as needed
- Monitor hydration levels and take breaks as needed during outdoor activities
- Allow adequate rest and recovery time between activities and adjust as needed
- Seek professional guidance on nutrition and adjust diet as needed
- Monitor the use of protective gear and adherence to traffic laws while biking in downtown city streets and adjust as needed.

By following these steps, the retiree can reduce the likelihood of potential failure modes, minimize their impact and ensure a healthy and safe lifestyle.