



EUROPEAN BONE AND JOINT HEALTH STRATEGIES PROJECT

EUROPEAN ACTION TOWARDS BETTER MUSCULOSKELETAL HEALTH

A Public Health Strategy to Reduce the Burden of
Musculoskeletal Conditions

Turning Evidence into Everyday Practice



eular European League Against Rheumatism



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Endorsement

Musculoskeletal conditions are common throughout Europe and their impact on individuals is pervasive. They have enormous socioeconomic impact. These recommendations have the potential to reduce this impact on both individuals across Europe and also on employers and the social and health care systems throughout Europe. Actions need to be taken at all levels to ensure their implementation.

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Executive Summary

Background

Musculoskeletal conditions are a major cause of morbidity throughout Europe and have a substantial influence on health and quality of life inflicting an enormous cost on health and social care systems. In Europe nearly one quarter of adults are affected by longstanding musculoskeletal problems that limit everyday activities. They affect all ages but become increasingly common with ageing and are the major cause of physical disability. With an increase in the number of older people throughout the world, along with changes in lifestyle, this burden will increase.

The *European Action Towards Better Musculoskeletal Health* has developed strategies to prevent musculoskeletal problems and conditions where possible, and to ensure that those people with musculoskeletal conditions enjoy a life with fair quality as independently as possible. In addition, recommendations are made for the implementation of these at the national, regional and local level. These strategies have the potential to reduce the future burden of musculoskeletal conditions in Europe. This action has been undertaken by a collaboration of the Bone and Joint Decade, EULAR, EFORT and IOF with experts from across Europe in the areas of rheumatology, orthopaedics, trauma, public health, health promotion and policy implementation. In addition the views of people with musculoskeletal conditions have been taken into account.

All aspects of musculoskeletal conditions, from prevention to rehabilitation, are considered with a specific focus on osteoarthritis, rheumatoid arthritis, back pain, osteoporosis, major limb trauma, and occupational and sports musculoskeletal injuries. Strategies that have common benefits for these conditions have been identified.

A number of interlinked tasks have been undertaken:

- identification of the impact on the individual and society of musculoskeletal conditions to demonstrate the need for action and identify priorities
- identification of determinants of the development or outcome of musculoskeletal conditions to identify those at most risk or risk factors that could be modified

- identification of effective interventions for the prevention, treatment and rehabilitation of the various conditions by expert systematic review of the evidence-base provided by systematic reviews and guidelines
- development and dissemination of strategies that apply these interventions
- recommendations for the implementation of these strategies at the national, regional and local level, identifying barriers and ways in which implementation can be facilitated
- recommendations for the evaluation of these strategies

Strategies have been developed that consider prevention in the whole population and in those at high risk, and treatment from the earliest stages to those with well established conditions. The recommendations also consider evidence of effectiveness in dealing with symptoms, most commonly pain, tissue damage, function, activities and participation. This is following the concepts of the WHO International Classification of Functioning, Disability and Health available at URL: <http://www3.who.int/icf/icfemplate.cfm>. Interventions recommended include lifestyle measures, and pharmacological, surgical and rehabilitative interventions. The recommendations are broadly based and are not given for specific interventions, as there is a lack of comparative data to enable such specific recommendations to be made.

Strategies have been developed which bring together the evidence-based interventions that have been identified for the different conditions. Such strategies are aimed at the whole population to prevent these conditions where possible; at those individuals at highest risk of developing these conditions; and also at those who already have these conditions to reduce the impact that they have upon them. The strategies look for commonality of recommendations that will maintain or improve musculoskeletal health whatever the underlying condition. In addition they combine what can be achieved from evidence-based interventions with what those with musculoskeletal conditions, their carers and representatives; and health care providers want to be achieved.

Strategies for the prevention and management of musculoskeletal conditions

Strategies for the whole population

To reduce the enormous impact on the quality of life of individuals and socio-economic impact on society related to musculoskeletal conditions, people at all ages should be encouraged to follow a healthy lifestyle and to avoid the specific risks related to musculoskeletal health.

This means:

- Physical activity to maintain physical fitness
- Maintaining an ideal weight
- A balanced diet that meets the recommended daily allowance for calcium and vitamin D
- The avoidance of smoking
- The balanced use of alcohol and avoidance of alcohol abuse
- The promotion of accident prevention programmes for the avoidance of musculoskeletal injuries
- Health promotion at the workplace and related to sports activities for the avoidance of abnormal and overuse of the musculoskeletal system
- Greater public and individual awareness of the problems that relate to the musculoskeletal system. Good quality information on what can be done to prevent or effectively manage the conditions and the need for early assessment

Strategies for the at risk population

To prevent the enormous impact on the quality of life of individuals and socio-economic impact on society related to musculoskeletal conditions, those at greatest risk must be identified and encouraged to take measures to reduce their risk. This should be on a background of being encouraged to follow a healthy lifestyle and to avoid the specific risks related to musculoskeletal diseases.

This requires a case finding approach for the different musculoskeletal conditions aimed at identifying those individuals who are most at risk of future problems related to musculoskeletal diseases and who will benefit from evidence-based interventions. The following case-finding approaches and interventions are recommended:

Condition	Case finding strategy	Intervention recommended
Osteoarthritis	Those deemed most at risk, who include people aged 50+ years, obesity, abnormal biomechanics (e.g. identify newborns at risk of hip dysplasia), a history of joint injury, intense sporting activities or certain occupations.	For the population deemed to be at risk, there should be programmes to promote the importance of avoiding obesity, a gain in physical fitness and access to both preventative surgical interventions and rehabilitation.
Rheumatoid arthritis	Those with early inflammatory arthritis should be identified and assessed as soon as possible, as many will progress to develop rheumatoid arthritis.	People with three or more persistently inflamed joints should be assessed expertly as soon as possible, at least within 6 weeks of onset of symptoms. If diagnosed as rheumatoid arthritis, early treatment is recommended.
Back pain	All adults should be considered at risk. Back pain is very common and it is not yet possible to identify those in the community at greater risk of developing back pain with sufficient sensitivity or specificity to make any recommendations. "Yellow flags" for persistence or recurrence need to be looked for.	There should be a strategy to encourage the population to change behaviour and beliefs about back pain and on the importance of undertaking moderate exercises several times per week.

Osteoporosis	Assessment of fracture probability should be performed using risk factor profiling (e.g. older people (>65 years); men and women with strong risk factors such as untreated hypogonadism, previous low trauma fracture, glucocorticoid therapy, BMI <19 kg/m ² , maternal history of hip fracture, excess alcohol and smoking) and, where indicated, bone density assessment.	For the at risk population education and lifestyle advice should be provided, together with the correction of calcium and vitamin D deficiency and risk factor modification where possible. Case-finding strategies should be implemented to identify individuals with a high fracture probability. Interventions should be initiated for those with a high fracture probability as outlined in the next 2 sections.
Major musculoskeletal injuries	The whole population should be considered at risk, particularly those participating in traffic, high-risk occupation or leisure activities.	Identification of risk factors Create safe communities by <ul style="list-style-type: none"> • removing external risks • modifying the environment (safe roads, work place etc.) • using correct equipment (safe vehicles, work tools, etc) • using protective equipment (safety belt, helmets, work place etc.) • education and training programs • obeying rules and regulations • maintaining physical fitness • avoiding drugs and alcohol • establishing fast and well-trained rescue chain
Occupational musculoskeletal injuries	The whole working population should be considered at risk, particularly those exposed to repetition, high force, awkward joint posture, direct pressure, vibration, prolonged constrained posture or psychological factors such as psychological demand, stress, etc.	Identification of occupational risk factors. Adaptation of work place and organisation. Participation in accident awareness and prevention campaigns. Multi-disciplinary approach to educate participants on: <ul style="list-style-type: none"> • the importance of physical and psychological • the skills and techniques required by the particular work • the nutritional requirements of the events • correct clothing and protective equipment • obeying the rules
Sports injuries	The whole population that participates in physical activity or sport is at risk, particularly the physically unfit person if they try to do too much, too quickly. Participants in contact sports, where the wrong body type for the sport, the level of expertise and experience differ and the rules of the sport are not observed. In the rehabilitation phase the risk for a new injury is increased.	Identification of risk factors. Multi-disciplinary approach to educate participants on: <ul style="list-style-type: none"> • the importance of physical fitness incl. basic aerobic fitness • the skills and techniques required by the particular sport • the nutritional requirements of the events • correct clothing and protective equipment • obeying the rules

Strategies for those with the early features of a musculoskeletal problem

To prevent the enormous impact on the quality of life of individuals and the socio-economic impact on society related to musculoskeletal conditions, those with earliest features of a musculoskeletal condition should receive an early and appropriate assessment of the cause of their problem. Once their needs have been identified they should receive early and appropriate management and education in the importance of self-management.

This requires methods to ensure that those who have the earliest features of the different musculoskeletal conditions are assessed by someone with the appropriate competency and that the person should have timely access to care that is appropriate to their needs.

The following approaches are recommended for early assessment and management to achieve the best outcomes. These are on a background of

- enabling people to recognise the early features of musculoskeletal conditions and to know what to do, either managing the problem themselves or knowing when to seek appropriate professional help
- enabling people to access the skills necessary to manage and take responsibility for their own condition in the long term and to be able to lead full and independent lives.

Condition	Assessment and management of those with the earliest features of a musculoskeletal condition
Osteoarthritis	<p>The strategies outlined for those at risk should be undertaken including education programs to encourage self-management. This should include information on the condition, lifestyle and its treatment.</p> <p>There should be pain management including the use of topical analgesics, simple analgesics and NSAIDs.</p> <p>Normal biomechanics should be restored, including osteotomy, ligament and meniscal surgery where indicated.</p> <p>Environmental adaptations in the home and workplace and the use of aids, braces or devices should be considered.</p> <p>The use of glucosamine sulphate, chondroitin sulphate or hyaluronic acid and of I/A therapies (including corticosteroids, hyaluronic acid and tidal irrigation) should be considered.</p>
Rheumatoid arthritis	<p>For those with the early stages of rheumatoid arthritis it is important that a correct diagnosis is made by expert assessment within 6 weeks of onset of symptoms.</p> <p>Disease modifying anti-rheumatic drug (DMARD) treatment should be started in addition to symptomatic therapy and rehabilitative interventions as soon the diagnosis of rheumatoid arthritis is established. The choice of treatment should take into account the presence of prognostic indicators supporting the use of more aggressive therapy. Treatment should be closely monitored to ensure ideal disease control.</p> <p>There should be education programmes to encourage self-management. These should include information on the condition, lifestyle and its treatment.</p> <p>Treatment should consider all aspects of the effect of the condition on the person.</p> <p>People with rheumatoid arthritis should be enabled to participate as fully as possible through rehabilitation and modification of the work, home and leisure environment.</p>
Back pain	<p>There should be a strategy to encourage the population to change behaviour and beliefs about back pain and on the importance of maintaining physical activity and employment by those with acute or subacute back pain.</p> <p>On a background of public awareness, health cares professionals should learn to follow the appropriate guidelines which recommend staying active; avoiding bed rest; using paracetamol, NSAIDs or manual therapy and addressing “red” and “yellow” flags.</p>

Osteoporosis	<p>For the population with osteoporosis (BMD T score ≤ -2.5) there should be educational and lifestyle advice programmes.</p> <p>For those identified as having a high risk of fracture there should be appropriate pharmacological interventions.</p> <p>For older people at high risk of falling there should be in addition a falls prevention programme.</p>
Major musculoskeletal injuries	<p>There should be immediate accurate diagnosis and appropriate treatment on the scene.</p> <p>In addition there should be stabilisation of basic life functions; systemic pain management; consideration of immobilisation, if unstable; early transportation to centre with appropriate experience and equipment.</p> <p>Consider operative or non-operative stabilisation of fractures; immediate operative treatment if further deterioration is expected; adequate fluid and nutrition management; pulmonary, cardiovascular and neurological complications.</p> <p>Prevent complications (infection, thrombosis, embolism, heterotopic ossifications).</p> <p>Start early mobilisation and rehabilitation.</p>
Occupational musculoskeletal injuries	<p>There should be early accurate diagnosis and treatment.</p> <p>In addition there should be pain management including systemic and topical analgesics; partial work restriction.</p> <p>Consider short-term immobilisation and the use of aids, braces or devices.</p> <p>Maintain physical fitness during rehabilitation.</p> <p>Understand the mechanism of injury and prevent future injuries by considering adaptation work place, transferring the patient to another job or distinct job modification.</p> <p>Return to work early.</p>
Sports injuries	<p>There should be early accurate diagnosis and treatment.</p> <p>RICE - rest, ice, compression and elevation.</p> <p>Pain management including systemic and topical analgesics.</p> <p>Consider immobilisation, if unstable – early mobilisation, if stable; the use of aids, braces or devices; immediate operative treatment if further deterioration is expected; operative reconstruction of tendons, capsule and ligaments; operative or non-operative stabilisation of fractures.</p> <p>Maintain physical fitness during rehabilitation.</p> <p>Return to sport when pain free and able to carry out all skills required by the sport.</p> <p>Understand the mechanism of injury and prevent future injuries.</p> <p>Consider adaptation of special technique in sport.</p>

Strategies for those with musculoskeletal problems

To prevent the enormous impact on the quality of life of individuals and socio-economic impact on society related to musculoskeletal conditions, those with a musculoskeletal condition (who have pain, impairment of function, limitation of activities and restriction of participation) should have fair (considers equity, timeliness and ethics) opportunity of access to appropriate care which will reduce pain and the consequences of musculoskeletal conditions, with improvement in functioning, activities and participation. These outcomes should be achieved in the most cost effective way possible for the appropriate environment.

This requires that those who have musculoskeletal conditions have access to appropriate health and social care, and support in the home and workplace. There should be equity of access to care, which should have demonstrated benefit and appropriateness to meet their needs.

The following approaches are recommended for assessment and management to achieve the best outcomes. These are on a background of:

- enabling people to know what to do, either managing the problem themselves or knowing when to seek expert help
- enabling people to access the skills necessary to manage and take responsibility for their own condition in the long term and to be able to lead full and independent lives.

Condition	Recommended management those with various established musculoskeletal conditions (established musculoskeletal condition strategy)
Osteoarthritis	<p>The strategies outlined for those at risk should be undertaken including education programs to encourage self management. These should include information on the condition, lifestyle and its treatment.</p> <p>There should be pain management including the use of topical analgesics, simple analgesics and anti-inflammatory analgesics (NSAIDs).</p> <p>The use of glucosamine sulphate, chondroitin sulphate or hyaluronic acid and of I/A therapies (including corticosteroids, hyaluronic acid and tidal irrigation) should be considered.</p> <p>Normal biomechanics should be restored, including osteotomy, ligament and meniscal surgery where indicated. Joint replacement surgery should be considered for end-stage joint damage that is causing unacceptable pain or limitation of function. Surgery should be timely.</p> <p>There should be rehabilitation programmes to improve function, activities and participation. The use of aids, braces or devices should be considered. Environmental adaptations in the home and workplace should be considered.</p>
Rheumatoid arthritis	<p>DMARD treatment should be continued in addition to symptomatic therapy and rehabilitative interventions.</p> <p>Treatment should be expertly monitored to ensure ideal disease control. The choice of treatment should take into account the presence of prognostic indicators supporting the use of more aggressive therapy.</p> <p>Surgery should be considered for end-stage joint damage that is causing unacceptable pain or limitation of function. Those with late stage rheumatoid arthritis may have greater surgical needs and a co-ordinated approach is required. Surgery should be timely.</p> <p>Treatment should consider all aspects of the effect of the condition on the person.</p> <p>There should be rehabilitation programmes and modification of the work, home and leisure environment to enable people with rheumatoid arthritis to participate as fully as possible.</p>
Back pain	<p>Effective treatments for subacute and chronic non-specific back pain are exercise therapy, behavioural therapy including pain management or a combination of these.</p> <p>Multi-disciplinary programs should be delivered for non-specific back pain if there is no improvement with exercise or behavioural therapy. It is as yet unclear what the optimal content of these programs is.</p> <p>Rehabilitation should be undertaken with consideration and involvement of the workplace.</p> <p>Back pain of known cause (specific back pain) needs specific management.</p>

Osteoporosis	<p>For those with established osteoporosis there are a number of key strategies that depend on the severity and stage of the disease. The appropriate strategy will consist of one or a combination of the following:</p> <ul style="list-style-type: none"> • education and lifestyle advice • analgesia when indicated • physiotherapy when indicated • pharmacological intervention with bone active drugs • falls prevention programme in older people at high risk of falling • calcium and vitamin D supplementation in frail older people • orthopaedic management of fracture when indicated • multi-disciplinary rehabilitation • nutritional support • hip protectors for frail older people in residential care or nursing homes
Major musculoskeletal injuries	<p>Pain management including systemic and topical analgesics.</p> <p>Consider definitive operative treatment, including stabilisation, reconstruction of biomechanics, arthroplasty, reattachment of limbs, amputation, and plastic surgery.</p> <p>Consider definitive non-operative treatment, including use of aids, braces or devices or prosthetic devices.</p> <p>Start early mobilisation and rehabilitation.</p> <p>Consider reintegration into work process and society.</p>
Occupational musculoskeletal injuries	<p>Pain management including systemic and topical analgesics.</p> <p>Partial work restriction.</p> <p>Consider the use of aids, braces or devices.</p> <p>Maintain physical fitness during the rehabilitation.</p> <p>Understand the mechanism of injury and prevent future injuries by considering modification of task and work organisation, transferring the patient to another job or distinct job modification.</p> <p>Return to work early.</p>
Sports injuries	<p>Pain management including systemic and topical analgesics.</p> <p>Consider in depth diagnosis, including MRI, diagnostic arthroscopy etc.</p> <p>Consider operative reconstruction of tendons, capsule and ligaments.</p> <p>Consider operative or non-operative stabilisation of fractures.</p> <p>Active rehabilitation with joint specific exercises.</p> <p>Maintain physical fitness during the rehabilitation process.</p> <p>Return to sport when pain free and able to carry out all skills required by the sport.</p> <p>Multi-disciplinary approach for the care of athletes should involve coach, physiotherapist, physician, physiologist, psychologist, nutritionist, podiatrist and biomechanics.</p> <p>Evaluate the mechanism of injury and training errors to prevent future injuries.</p> <p>Based on understanding the rules, the physiological stresses and the injury mechanism consider adaptation of training and technique.</p>

What are the implications of implementation of these strategies? What does this mean for different stakeholders?

The implementation of these strategies requires actions at all levels: the European and national political level; the employer level; the health care and social care professional; the patient and carer level and the public as a whole. Firstly we need to consider the actions required to implement these strategies and secondly what this implies for these different stakeholders. In this way we can identify what needs to be done by whom to implement the recommended strategies for the whole population,

for those at risk and for those with a musculoskeletal condition. Suggestions of such actions required to implement the recommended strategies are given in the following tables.

What actions are necessary to prevent musculoskeletal problems and conditions where possible and to ensure that those people with musculoskeletal problems and conditions enjoy life with quality and independence:

General

- ⇒ A comprehensive health strategy to address the determinants of musculoskeletal health should be developed at the European, national and local levels. This should consider health promotion, prevention, treatment and rehabilitation of musculoskeletal conditions based on the recommendations of this report.
- ⇒ It should be ensured that musculoskeletal conditions reach the political agenda at all levels, recognising the importance of musculoskeletal health and making appropriate priorities with resources.
- ⇒ Priority should be given at the European and national level to the research needs of musculoskeletal conditions. European and national research programmes should be developed that will lead to a better understanding of the causes of musculoskeletal conditions and their effects on people, more effective prevention and treatment and to recognise the need to evaluate the cost effectiveness of strategies for their prevention.
- ⇒ Programmes to prevent musculoskeletal problems and conditions should link with existing priorities and activities, such as around determinants of health, where there are opportunities for mutual benefit.
- ⇒ Data should be collected, for example as part of health interview surveys, to monitor determinants for, occurrence and impact of musculoskeletal conditions in all European states in a standardised manner. This will enable the quantification and monitoring of the scale of the problem and the effect of the implementation of any health strategies.

To implement strategies for the whole population

- ⇒ The awareness of the public and of health professionals should be raised about the scale and impact of musculoskeletal conditions and of the options for prevention and treatment.
- ⇒ People at all ages should be empowered to be responsible for their own musculoskeletal health by access to information about a musculoskeletal healthy lifestyle supported through public health programmes, health promotion campaigns and healthy workplace programmes.
- ⇒ This requires actions by the whole community including policy makers, providers of health and social care, employers and the public.
- ⇒ Health promotion initiatives should be harmonised and synergies explored where there are similar recommendations such as for cancer and cardiovascular disease.
- ⇒ Data should be collected, eg in health interview surveys, to monitor determinants for, occurrence and impact of musculoskeletal conditions in all European states in a standardised manner. This will enable the quantification and monitoring of the scale of the problem and the effect of the implementation of any health strategies.
- ⇒ Employment and disability legislation should be appropriate for the maintenance of musculoskeletal health.
- ⇒ Safe communities should be created that reduce the risk of accidents and facilitate a musculoskeletal healthy lifestyle.
- ⇒ Workplaces should be created that provide appropriate ergonomics, reduce risk of accidents and optimise psychological stress.

To implement strategies for the at risk population

- ⇒ Case finding approaches should be implemented for the different musculoskeletal conditions aimed at identifying those individuals who are most at risk of future problems related to musculoskeletal diseases and who will benefit from evidence-based interventions. This should be through
 - Clinical guidelines that are accepted by peers
 - Provision of appropriate resources
 - Use of information systems
 - Ensuring competency of health care providers
- ⇒ Actions should be taken across the community to reduce the risk factors for musculoskeletal conditions.
- ⇒ People at all ages should be empowered to be responsible for their own musculoskeletal health and understand by access to information and education about their personal risks and of the actions they can take to reduce their risks through public health programmes, health promotion campaigns and healthy workplace programmes.
- ⇒ Further research should be undertaken to better identify those at most risk of musculoskeletal conditions to enable more effective targeting of strategies for prevention.

To implement strategies for those with a musculoskeletal condition

- ⇒ Those with any of the different musculoskeletal conditions, at any stage from the earliest features, should be assessed and managed by someone with the appropriate competency and have timely access to care that is appropriate to their needs (equity) through
 - Implementation of evidence based guidelines for early management with appropriate resources
 - Quality assurance mechanisms for guidelines and outcome of care
 - Access to
 - education
 - symptom control
 - disease modifying therapy when indicated
 - rehabilitation
 - multi-professional and multi-disciplinary integrated approach to care as required
 - support to minimise impact on home, work and leisure activities
- ⇒ Timely access for those with the earliest features of a musculoskeletal condition is most important to minimise the associated morbidity.
- ⇒ People at all ages should be empowered to be responsible for their own musculoskeletal health by access to information and education to enable them to recognise the early features of a musculoskeletal condition and to know what to do, through both managing the problem themselves and knowing when to seek expert help.
- ⇒ The stigmas associated with musculoskeletal conditions should be reduced and a positive attitude created to facilitate early presentation to the healthcare system through education and raising awareness.
- ⇒ People with an established musculoskeletal conditions should also be empowered to know what to do, through both managing the problem themselves and knowing when to seek expert help through information, education and training.
- ⇒ People should be enabled to access the skills necessary to take responsibility for their own musculoskeletal condition in the long term, make informed choices and to be able to lead full and independent lives through
 - Access to high quality information so that people can develop and maintain an informed dialogue with health and social care professionals
 - Self management programmes / expert patient groups

- ⇒ People should be enabled to participate in home, work and leisure activities through environmental adaptation, provision of services and sickness benefit regulations.
 - ⇒ People should be enabled to stay at work or in education by health care, social support, education and training, and employment policies, which are linked where appropriate. For example:
 - Flexible education and training arrangements
 - Flexible working arrangements
 - Flexible benefits and social support
 - ⇒ There should be an integrated approach to those with musculoskeletal conditions between health and social care professionals.
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- ⇒ There should be appropriate education and competency of health professionals to manage musculoskeletal conditions in an evidence-based way at all levels of health care provision.
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What are the implications for the different stakeholders?

These actions have implications for what the different stakeholders need to do. Recommendations are given for each level:

European Political Level

- ⇒ Develop and implement European plans and policies that
 - recognise the importance of musculoskeletal health
 - encourage & facilitate the implementation of this strategy
 - explicitly refer to musculoskeletal conditions alongside existing priorities and activities for other disease areas where there is mutual benefit such as within public health policies and initiatives for common determinants of health.
 - give priority to the need for research and for programmes to be developed that will lead to a better understanding of the causes of musculoskeletal conditions and their effects on people, and secondly the need to evaluate the cost effectiveness of strategies for their prevention.
 - ⇒ Recognise political salience of reducing the burden of musculoskeletal conditions
 - ⇒ Initiate data collection, for example as part of health interview surveys, to monitor determinants for, occurrence and impact of musculoskeletal conditions in all European States in a standardised manner.
 - ⇒ Support cross-sectoral working and bring together policies of mutual benefit for musculoskeletal health eg bringing together health, social, education, transportation and housing policies.
 - ⇒ Develop policies to keep people at work despite their musculoskeletal condition.
 - ⇒ Encourage national implementation of guidelines for case-finding appropriate to local population.
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National Political Level

- ⇒ Develop and implement national and regional plans / policies that
 - recognise the importance of musculoskeletal health and give appropriate priority to the improvement of musculoskeletal health that is commensurate with the burden of these conditions.
 - encourage & facilitate the implementation of this strategy, recognising political opportunities and providing necessary resources.
 - explicitly refer to musculoskeletal conditions alongside existing priorities and activities for other disease areas where there is mutual benefit such as within public health policies and initiatives for common determinants of health.
 - give priority to the need for research and for programmes to be developed that will lead to a better understanding of the causes of musculoskeletal conditions and their effects on people, and secondly the need to evaluate the cost effectiveness of strategies for their prevention.
- ⇒ Initiate data collection, for example as part of health interview surveys, to monitor determinants for, occurrence and impact of musculoskeletal conditions in a standardised manner to other European States.
- ⇒ Provide public health programmes that implement the recommended strategies, including actions to reduce known risk factors.
- ⇒ Health and safety legislation appropriate to maintaining musculoskeletal health.
- ⇒ Support cross-sectoral working - bring together policies of mutual benefit eg bringing together health, social, education, employment, transportation and housing policies
- ⇒ Initiate development and implementation of guidelines for case-finding appropriate to local population and provision of resources and incentives for the implementation of these guidelines.
- ⇒ Implement guidelines for early management of musculoskeletal conditions appropriate to the local population and provision of resources and incentives for the implementation of these guidelines.
- ⇒ Ensure health systems provide timely access to care with equity of access for the various musculoskeletal conditions where early actions will alter outcomes.
- ⇒ Develop quality assurance mechanisms for guidelines.
- ⇒ Ensure competency of providers of care, including establishing standards for education and training of health and social care professionals.
- ⇒ Develop and implement policies to keep people at work despite their musculoskeletal condition, such as flexible working arrangements, flexible benefits and appropriate social support.

Employer Level

- ⇒ Create a good workplace that provides appropriate ergonomics, reduces the risk of accidents and minimises psychological stress.
- ⇒ Provide access to appropriate lifestyle advice and offer workplace programmes to discourage smoking and provide healthy food.
- ⇒ Offer opportunities to keep people in employment or to facilitate early return to employment through work adjustment or flexibility in working hours.
- ⇒ Timely provision of vocational and professional rehabilitation.

Health and Social Care Professional Level

- ⇒ Ensure all health and social professionals are aware of the need for and possibilities for prevention, and to promote them.
 - ⇒ Have an advocacy role, communicating the burden of disease to public, politicians and peers, and promoting strategies for their prevention and treatment.
 - ⇒ Develop a more integrated approach between health and social care professionals and identify mutual benefits across sectors.
 - ⇒ Ensure appropriate competency of health and social care professionals so that they are able to (a) recognise and advise those at risk and are (b) able to manage those with a musculoskeletal problem appropriate to their needs including recognising when they require timely and / or more expert management (triage).
 - ⇒ Prioritise resources into appropriate services to improve musculoskeletal health (financial, physical and human).
 - ⇒ Implement guidelines for management of musculoskeletal conditions at all stages appropriate to local population that include identification of those who need most rapid assessment and management.
 - ⇒ Provide integrated, co-ordinated, seamless, multi-professional, multi-disciplinary care.
 - ⇒ Establish quality assurance systems to ensure the best outcomes for those with musculoskeletal conditions.
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Patient / Carer Level

- ⇒ Recognise the patient / carer potential educational role to the community by engaging with other stakeholders and relating experience.
 - ⇒ Understand the concept of being a person at risk, take a responsibility to maintain your own musculoskeletal health and ensure that you have access to reliable and up-to-date information to minimise your risk of developing a musculoskeletal condition.
 - ⇒ Reduce the stigma associated with musculoskeletal conditions and create a positive attitude to facilitate early presentation to the healthcare system through education and raising awareness.
 - ⇒ Enable people to recognise the early features of a musculoskeletal conditions and to know what to do, either managing the problem themselves or knowing when to seek expert help.
 - ⇒ Enable people to access the skills necessary to manage and take responsibility for their condition in the long term and to be able to lead full and independent lives.
 - ⇒ Ensure access to high quality information so that people can develop and maintain an informed dialogue with health and social care professionals.
 - ⇒ Ensure access to early assessment and management, including access to self-management courses where available.
 - ⇒ Be aware of your rights and access to education, training and employment.
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Public Level

- ⇒ Raise children to actively participate in physical activities, have body awareness and maintain this throughout life through education, public awareness and health promotion.
 - ⇒ Take responsibility to maintain own musculoskeletal health.
 - ⇒ Be aware of the need for and possibilities for prevention of musculoskeletal problems and be able to make informed choices through education.
 - ⇒ Take steps to identify your individual risk and need for intervention by accessing information and other methods of risk assessment.
 - ⇒ Reduce the stigma associated with musculoskeletal conditions and encourage others in the community to take early action to reduce their risk.
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How to make it happen

Health strategies need plans for implementation if they are to achieve their goals of improving health. Implementation may be at either a national or local level but the principles are similar. Identify the needs and priorities, choose from the various strategies what is most relevant and feasible and identify what level you need to achieve changes — the political, employer, health and social care professional, the patient and their carer and at the public level. Then develop and carry through an implementation plan following key principles the most important of which is to identify those stakeholders who will champion change.

Principles of Implementation
<ul style="list-style-type: none"> • Dissemination of this report’s recommendations should be planned, targeted and evaluated • Dissemination needs to be supplemented by active implementation strategies • Identify local, regional, national and /or international champions for change • Establish a task group to develop an implementation plan to change policies and / or clinical practice • Set clear and specific objectives that relate to your particular needs and priorities • Provide a rationale for action • Identify decision makers and their stage of readiness to change • Adopt a multifaceted approach to achieving change • Identify opportunities for integration with existing programmes • Think big but start small with strategies that are likely to have positive results • Evaluate for cost and clinical effectiveness

Evaluating the effectiveness of strategies for the prevention and treatment of musculoskeletal conditions

The strategies can be evaluated by considering their dissemination, their application or the actual improvement in musculoskeletal health. Indicators for monitoring musculoskeletal health have been recommended by the European Commission “Indicators for Monitoring Musculoskeletal Problems and Conditions” project available at http://europa.eu.int/comm/health/ph_projects/2000/monitoring/fp_monitoring_2000_frep_01_en.pdf. The application of these across the community in surveys and registers will enable the effect of any strategies to be measured. Although many of the recommendations could show benefit in less than 5 years, such a result on musculoskeletal health may take longer to demonstrate. Measures of implementation are

a more realistic outcome and surveys need to be undertaken to identify initiatives across Europe that are implementing these strategies and to enable each to learn from another about the barriers and facilitators to their successful application. More research is needed as to how to make change happen so that the enormous advances in understanding of these conditions and in therapeutics are taken through to the bedside and the community as a whole to result in better musculoskeletal health. It is also a priority to identify better ways of preventing these conditions in view of their high and rising prevalence and enormous personal and societal impact.

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