

The Global Spine Care Initiative: resources to implement a spine care program

Online Supplemental File

Table 1. Consensus spreadsheet of the resources for spine care. *The four categories of resources (knowledge and skills, materials and equipment, human resources, facility and infrastructure) were matched with all classes of spine concerns. This information identifies what resources may be necessary to deliver care to match community spinal health care needs.*

RESOURCES	CLASSES															
	Preventive health		Non-specific spine pain, with or without functional limitations						Neurological concerns			Structural deformity		Severe or systemic pathology		
	0a	0b	Ia	Ib	IIa	IIb	IIc	IId	IIIa	IIIb	IIIc	IVa	IVb	Va	Vb	Vc
Follow care pathway instructions, know when to refer or coordinate care	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Preliminary (triage) screening history and exam, recognize signs of serious or systemic pathology, psychosocial risk factors, triage to appropriate spine care	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Ability to perform basic life support and spine-related emergency skills			x	x	x	x	x	x	x	x	x	x	x	x	x	x
Record keeping and other technology skills	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Skills to recognize, screen public health issues	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Extensive knowledge about spinal conditions					x	x	x	x	x	x	x	x	x	x	x	x
Detailed spine history and exam, triage skills, triage to appropriate spine care			x	x	x	x	x	x	x	x	x	x	x	x	x	x
Educate person about spine condition	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Educate person about prevention	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Educate about active therapies and self-care	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Perform passive therapies (manipulation, acupuncture, etc)			x	x	x	x	x	x	x		x					
Skills to address psychosocial flags	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Skills to screen for and manage risk factors and comorbidities	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Psychological and social therapies					x	x	x	x	x	x	x	x	x			
Over the counter medications (e.g., recommend NSAIDs)			x	x	x	x	x	x	x	x	x		x	x	x	x
Prescription medications (Opioids, or other advanced pharmacology)					x	x	x	x	x	x	x		x	x	x	x
Basic Diagnostic imaging (x-ray) interpretation						x	x	x	x	x	x	x	x	x	x	x
Advanced Diagnostic imaging (advanced MRI, CT, etc) interpretation							x	x	x	x	x	x	x	x	x	x
Laboratory testing interpretation						x	x	x	x	x	x		x	x	x	x
Refer to specialist to manage comorbidities (when indicated)						x	x	x	x	x	x		x	x	x	x
Refer to surgery (when indicated)								x	x	x	x		x	x	x	x
Surgery skills (minor surgery and injections)								x	x	x	x		x	x	x	x
Surgery skills (major surgery) and advanced medical/emergency care										x			x	x	x	x
Skills to work with multiple disciplines to deliver advanced coordinated care						x		x		x	x		x	x	x	x

RESOURCES	CLASSES															
	Preventive health		Non-specific spine pain and/or functional limitations						Neurological concerns			Structural deformity		Severe or systemic pathology		
	0a	0b	Ia	Ib	IIa	IIb	IIc	IId	IIIa	IIIb	IIIc	IVa	IVb	Va	Vb	Vc
Clinic office equipment and furniture			x	x	x	x	x	x	x	x	x	x	x	x	x	x
Passive therapy equipment (treatment table, hot/cold packs, acupuncture needles)			x	x	x	x	x	x	x		x	x				
Sanitation supplies			x	x	x	x	x	x	x	x	x	x	x	x	x	x
Exam, treatment, basic emergency supplies			x	x	x	x	x	x	x	x	x	x	x	x	x	x
Access to non-opioid analgesics, muscle relaxants			x	x	x	x	x	x	x	x	x		x	x	x	x
Pharmacy or access to advanced pharmacology or other medications						x	x	x	x	x	x		x	x	x	x
Emergency supplies (e.g., for transport, spine board, stiff collar)							x			x			x	x		x
Surgical and invasive outpatient procedure equipment								x	x	x	x		x	x	x	x
Advanced surgical equipment										x	x		x	x	x	x
Diagnostic imaging (radiography)						x	x	x	x	x	x	x	x	x	x	x
Advanced diagnostic imaging (advanced, MRI, etc)								x	x	x	x			x	x	x
Laboratory						x	x	x	x	x	x		x	x	x	x
Surgical supplies for secondary and/or tertiary care								x	x	x	x		x	x	x	x
Technological resources (electronic communications, EMR, data registry, etc)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
RESOURCES	CLASSES															
Human resources	Preventive health		Non-specific spine pain and/or functional limitations						Neurological concerns			Structural deformity		Severe or systemic pathology		
	0a	0b	Ia	Ib	IIa	IIb	IIc	IId	IIIa	IIIb	IIIc	IVa	IVb	Va	Vb	Vc
Office support staff, record keeping staff			x	x	x	x	x	x	x	x	x	x	x	x	x	x
Health care support staff, nurse, aide, or technician			x	x	x	x	x	x	x	x	x	x	x	x	x	x
Person with minimal health training in screening to triage spine conditions	x	x	x	x												
Person with training to deliver community health spine programs for primary and secondary prevention	x	x	x	x												
Health care provider with training in spine care at primary care level			x	x	x	x	x	x	x	x	x	x				
Laboratory technician (or provider with skills)						x	x	x	x	x	x		x	x	x	x
Diagnostic imaging technician (or provider with skills)					x	x	x	x	x	x	x	x	x	x	x	x
Pharmacist or pharmacy technician					x	x	x	x	x	x	x		x	x	x	x
Support staff for Specialists (surgical nurse, etc)								x	x	x	x		x	x	x	x
Specialists (Internal Medicine, OBGyn, Orthopedic Surgeon, General Surgeon, Emergency, etc)														x	x	x
Specialists with training in spine care at secondary care level								x	x	x	x		x			
Advanced specialists and sub-specialists with training in spine care at a tertiary care level, including emergency spine surgery, imaging, etc.								x		x			x	x	x	x

RESOURCES	CLASSES															
Facility and infrastructure	Preventive health		Non-specific spine pain and/or functional limitations						Neurological concerns			Structural deformity		Severe or systemic pathology		
	0a	0b	Ia	Ib	IIa	IIb	IIc	IId	IIIa	IIIb	IIIc	IVa	IVb	Va	Vb	Vc
Community Health and Public Health Programs	x	x	x	x	x	x	x	x	x	x	x	x	x			
Health care clinic	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Pharmacy or dispensary			x	x	x	x	x	x		x	x		x	x	x	x
Hospital or facility for surgery and advanced interventions								x	x	x	x		x	x	x	x
Emergency/Trauma facility					x			x	x	x	x		x	x	x	x
Advanced specialty hospital or facility										x			x	x	x	x

Table 2 Resources checklist. Based upon the table above, the following is a proposed checklist of resources that are needed to deliver primary spine care.

Primary Spine Care Resources Checklist	Present?	
	yes	no
Knowledge and skills of health care providers		
Skills to work with multiple disciplines to deliver advanced coordinated care		
Follow care pathway instructions, know when to refer or coordinate care		
Has record keeping and technology skills		
Extensive knowledge about spinal conditions		
Able to recognize, screen public health issues		
Able to educate patient about spine condition diagnosis and prognosis		
Able to educate patient about prevention		
Able to educate patient about active therapies and self-care		
Able to interpret laboratory testing		
Able to obtain and interpret detailed spine history and exam, triage skills, triage to appropriate spine care		
Able to perform preliminary (triage) screening history and exam, recognize signs of serious or systemic pathology, psychosocial risk factors, triage to appropriate spine care		
Able to triage skills, send patient to appropriate spine care		
Able to order or perform basic diagnostic imaging (x-ray)		
Able to interpret basic diagnostic imaging (x-ray)		
Basic Diagnostic imaging (x-ray) interpretation		
Perform passive spine treatment therapies (manipulation, acupuncture, etc)		
Has skills to screen for and manage risk factors and comorbidities		
Able to recommend over the counter medications (e.g., NSAIDs)		
Prescription medications (Opioids, or other advanced pharmacology)		
Able to apply basic psychological and social therapies		
Has skills to address psychosocial flags or able to refer to psychosocial care		
Has access to a provider who has surgery skills (minor surgery and injections)		
Able to refer to specialist to manage comorbidities (when indicated)		
Able to refer to surgery (when indicated)		
Ability to perform basic life support and spine-related emergency skills		
Materials and equipment	yes	no
Emergency supplies (e.g., for transport, spine board, stiff collar)		
Advanced diagnostic imaging (advanced, MRI, etc)		
Pharmacy or access to advanced pharmacology or other medications		
Laboratory		
Diagnostic imaging (radiography)		
Access to pharmacy		
Exam, treatment, basic emergency supplies		
Passive therapy equipment (treatment table, hot/cold packs, acupuncture needles)		
Technological resources (electronic communications, electronic medical records, etc)		
Clinic office equipment and furniture		
Sanitation and cleaning supplies		

	yes	no
Human resources		
Person with training to deliver community health spine programs for primary and secondary prevention		
Health care support staff, nurse, aide, public health worker or technician		
Health care provider with training in spine care at primary care level		
Person with minimal health training in screening to triage spine conditions		
Specialists with training in spine care at secondary care level		
Laboratory technician (or provider with skills)		
Pharmacist or pharmacy technician		
Diagnostic imaging technician (or provider with skills)		
Advanced specialists and sub-specialists with training in spine care at a tertiary care level, including emergency spine surgery, imaging, etc.		
Support staff for Specialists (surgical nurse, etc)		
Office support staff, record keeping staff		
Facility and infrastructure		
Community Health and Public Health Programs		
Health care clinic		
Pharmacy or dispensary		
Hospital or facility for surgery and advanced interventions		
Emergency/Trauma facility		