Note :

** See Objective #5 for appropriate testing and differential diagnosis

PREVENTABLE APPROACH TO DISEASES & CONDITIONS

Adults & Elderly

DISEASE, CONDITION, DEFORMITY, DISORDER	POSSIBLE COMPLICATION OR PROGRESSION	SIGNS & SYMPTOMS	POTENTIAL TREATMENT	IMPORTANT CONSIDERATIONS
Plantar Fasciitis / Fasciosis	Heel spur, if heel pain persists with all con-servative treat-ments, look at differential di-agnosis	MLA pain, plantar heel pain, pain with palpa-tion, excessive pronation (or supination), pain especially dur-ing propulsion, am pain, pain with weight bearing after non-weight bearing	Supportive footwear, MLA support, heel cup, address any deformities, stretch-ing (including am), foot-wear in am and all day - Heel Spur - Horseshoe cushion, sweet spot, heel cushioning	If your patient's main complaint is PF, but they also have diabetes or arthritis, take that into consideration when cre-ating a treatment plan. May entail soft-er materials, different shoes, different stretches etc....
Plantar Fibromatosis	Enlargement may cause them to become symp-tomatic	Single or multiple nodules in the apex of the arch in the plantar fascia – may be asymptom-atic	Offload as needed based on symp-toms	N/A
Calcaneal Stress Fracture	Potential worsening of frac-ture	At the beginning pain will be worse with activity and go away at rest, however as the stress frac-ture wors-ens, pain at rest worsens (night)	Walking cast, reduce / stop activity, support the structures as required	Occurs often in runners, easily misdi-ag-nosed due to gradual onset, doesn't appear on x ray for a couple weeks
Heel Fat Pad Syndrome	N/A	Pain in the centre of the heel or through the whole fat pad, feels bruised or a dull ache, gait may be antalgic due to pain avoidance	Rest, heel cushion, softer cush-ioned footwear to absorb impact at heel strike, firm heel counter and stiff forefoot rocker, support any mechanical issues and increase shock absorbency	Degenerative – thinning/atrophy of fat pad over time
Traumatic – sudden onset	Arthritic changes in the affect-ed joint	Painful, swollen metatarsal head (dorsal and plantar), gait will be pain avoidance, ROM may be limited due to guarding or swelling	Off load affected metatarsal head – metatarsal pad or bar, rigid fore-foot rocker, cushion or sweet spot	Most commonly found in teens (girls >boys), lesser metatarsal heads, 2nd most common. This should be immobi-lized in the acute stages
Baxter's Nerve En-trapment	N/A	Heel pain, differential dx to plantar fasciitis, reproduction of pain with abduction and dor-siflexion of the forefoot for less than 1 minute, posi-tive Tinel's sign	Therapy (nerve glide ex-ercises), orthoses but apex of MLA needs to be under medial cuneiform not sustentaculum tali	Baxter's nerve gets impinged under the proximal plantar fascia, patient may not be able to abduct their 5th digit on af-fected foot only (although this is not reliable)
Tarsal Tunnel Syndrome	N/A	Burning, numbness, tingling, rest does not improve symptoms, night pain, gets worse with prolonged ac-tivity, excessive pronation, typical-ly quick onset of symptoms, symptoms present along nerve	Correct mechanical ab-normalities, control pro-nation, ensure proper shoe fit, referral to manu-al thera-pist, possible sur-gical intervention	Abnormal mechanics can lead to swell-ing and increased stress to the tarsal tunnel, which can lead to entrapment.

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Posterior Tibial Tendon Dysfunction (PTTD)	Accessory Navicular, Rigid pes planus, OA, stages 1-4	Pain in medial arch or along the Tib-ialis Pos-terior tendon, decrease in function (walking distance), lateral RF pain or swelling, possible FF varus or supinatus, hallux valgus, medial callus-ing, prolonged pronation, RF valgus, abduction of foot, dropped navicular, weakness of TP muscle, one foot seems to be affected only or worse than the other	Support MLA and correct RF ever-sion in stages 1 and 2, accommo-date FF varus, in late stage 3 and 4 orthotic becomes ac-commodative, possible bracing or immobilization, stable footwear with wide base, possible modifica-tion (ie buttress), PT	UCBL with rigid material to stabi-lize in the early stages is necessary, strength-ening is important to do with shoes and orthotics on, surgery is an option if necessary
Sinus Tarsi Syndrome	OA of the midfoot	History of chronic ankle sprains or traumatic event, anterolateral foot pain (over the sinus tarsi space), swelling, feeling of instability, pos-si-ble pronation & supination	Control STJ motions with MLA sup-port and a heel cup, footwear with firm heel counter and midsole, referral to PT	Goal is to improve the stability of the foot and ankle, surgery is an option but last resort, can occur in athletes as well
Peroneal Tendonitis	N/A	Pes cavus, FF valgus or PF 1st ray, RF varus, supination	Address deformities caus-ing supi-nation, lateral RF and/or FF post, no prona-tion control footwear	Other possible tendinopathy: Tibialis anterior tendinopathy, extensor ten-di-nopathy
Cuboid Syndrome	Arthritic changes in surround-ing joints, pe-roneal longus ten-donitis	Point tenderness at cuboid, signs of inflamma-tion, pain can travel to heel and lateral midfoot, worse with weight bearing but can have pain at rest, limited MF ROM, pain avoid-ance during gait especially heel lift	Supportive orthotics to control RF inversion and FF eversion, cuboid pad, stable neutral footwear – goal to support without overcorrecting, ref to PT	Common in chronic ankle sprains (in-version), can occur in all foot types (pronation or supination)
Fractures	N/A	Sharp pain with injury, constant pain worsened with weight bearing, swelling	Cast, offloading boot in acute phase, offload, ad-dress mechani-cal issues, pain management, rigid forefoot rocker in recov-ery	Calcaneus, 5th Metatarsal Fracture – Avulsion or Jones

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Lisfranc Injury	Surgical Fusion of mid-foot, arthritis of mid-foot, pes planovalgus deformities	Pain, swelling, can't tolerate inver-sion /eversion of the midfoot, antal-gic gait, possible Exosto-sis post inju-ry and healing (occurs in men > women)	Surgical treatment is used for lisfranc fracture dislo-cations, con-servative treatments may include cast, boot, custom orthot-ics once patient is al-lowed to weight bear	Can include 1 – 5 tarsals (TMT joints) but commonly the 2nd is the lisfranc joint, usually occurs as direct trauma or a plantarflexion injury (ie step in a hole). Classification of type of injury is needed to assist in treatment options
Metatarsalgia: *				
***Morton's (Foot) Syndrome**	Arthritic changes in 1st and 2nd MTP joints, more severe condi-tions in 2nd metatarsal or MTPJ (callus, ulcer, stress fracture), ham-mer/claw toe of 2nd	Shorter 1st metatarsal (& thickened 2nd meta-tarsal) vs. 3rd metatarsal, callusing under 2nd metatarsal head	Add a soft rubber (not plastic) extension under the 1st metatarsal head to increase ground contact with the 1st MTPJ vs. 2nd, metatar-sal pad, forefoot rocker in footwear	Keep an eye out for an elongated 2nd metatarsal which looks similar
***Morton's Neuroma**	Worsening symptoms and more compensa-tion during gait due to pain	Patient notes feeling of rolled up sock under their foot, feels relief without footwear, pain can be sharp, dull or burning, numbness and tin-gling, possible pain avoidance gait compen-sation, especially during propulsion	Proper fitting footwear with enough width and depth, rigid fore-foot rocker, address pathome-chan-ics as needed, meta-tarsal pad/ bar, neuroma pad, excavation and cush-ioning	More common in Women than Men, possibly due to footwear choices
***MTP Joint Synovitis**	Arthritic changes in joint	Complaint of walking on a stone, warm, red, swollen, toe may be curled and/or elevated more than others, pain on palpation (especially plantar), usually affects the 2nd MTPJ, instability of joint in dorsiflexion, possible limited ROM in plantarflex-ion	Footwear with a rigid forefoot rock-er, offload joint, metatarsal pad, cushioning, possible tap-ing for toe	Found commonly in patient's with RA
***MTP Joint Capsulitis**	Rupture of capsule, disloca-tion of toe, crossover toe is end-point	Complaint of pain under the ball of the foot, feeling of walking on a pebble, swelling around the affected joint, callusing, hallux valgus, ham-mer/claw or crossover toe, plantar plate tear, compensation in gait due to pain avoidance	Support to offload the affected joint, metatarsal pad/bar, sulcus crest, cushioning, taping the toe, footwear with a rigid forefoot rock-er and deep toe box	Usually affects the 2nd metatarsal head

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***Flexor Tenosynovitis**	Tendon rupture	Swelling, pain and tenderness along tendon affected (FHL or FDL), gait may be compensated due to stiff-ness or pain avoidance	Footwear with a rigid rocker fore-foot, address biomechanical issues, re-duce strain on involved tendon, referral to a PT	Found commonly in patient's with RA or other inflammatory diseases, also common in athletes
***Sesamoiditis**	Stress Fracture	Pain on palpation of plantar aspect, limited ROM of 1st MTPJ, painful toe off – may see compen-sations such as a low gear toe off or a pick up (ex-cessive knee flexion)	Offload the sesamoids bones, sup-port the MLA to reduce excessive pro-nation and pressure on 1st MTPJ, metatarsal pad/bar, cushion-ing under fore-foot, footwear with a fore-foot rocker	N/A
Bunion / Bunionette	Continues to get larger (caus-ing shoe fitting issues)	Medial or lateral prominence at 1st or 5th MTPJ, medial deviation of hal-lux or 5th digit, pain with pressure	Proper fitting shoes, sup-port for MLA (bunion), cushion/exca-vate plantar 5th MTPJ to off load (bun-ionette), address pathome-chanics causing pressure in either situa-tion	N/A
Exostosis	Stress over time can cause enlargement that can limit joint ROM causing arthritic changes	Bony bump (usually on a joint line), hypermobile 1st ray or hallux limita-tions, 1st metatarsal/ medial cunei-form Exostosis may be red from rub-bing on shoe	Off load pressure, support foot as necessary (hyper-mobile 1st ray), address hallux limitations, address shoes (stretch for bony protrusion or use a differ-ent lacing technique)	Commonly 1st MT / Medial cuneiform, dorsal joint line of 1st MTP joint
Calluses / Corns	Ulcers in neuropathic feet, sores, bruising, blisters from rubbing on footwear	Calluses are typically on the plan-tar/medial/ lateral surface, while corns are dorsal or inter-digital, may cause gait compensations for pain avoidance	Footwear to reduce pres-sure and prevent further progression, off load cal-luses with appropriate support, toe separators	In elderly patients, thin skin is com-mon, so these patients are more sus-ceptible to pain and open sores or ul-cers from friction

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Plantar Warts	Can take a long time to go away and callusing can build up around it	May cause gait compensations for pain avoidance	Seek treatment from a medical doctor, off load the wart with appropriate support or proper fitting footwear	Common in children as well
Leg Length Discrepancy (LLD)	OA, sciatica, knee pain, foot pain, LBP	Joint pain up to back, windswept look, asymmetry Long Leg: pronation, RF eversion, abduction, increased knee flexion, increased stance phase, circumduction Short Leg: supination, RF inversion, Genurecurvatum, hip drop (poss Trendelenburg), increased stance phase, swing phase compensations such has hip hiking, trunk rotation or leaning	Determine type of LLD – if structural - add lift to short leg, usually start with 50% of LLD depending on situation (if LLD is due TKR and it's caught shortly after we may add 80% of the discrepancy), if functional – refer to manual therapist to address reason for discrepancy	Structural or Functional: Measure & landmark, send for LLD x-ray measurement, age can be a factor – ie. Still growing or older and had discrepancy for many years, their body has accommodated so be cautious of changing too much Scoliosis can cause a LLD, be cautious as body reacts differently compared to a structural or functional LLD as the spine curves it raises one hip higher than the other
Sciatica	Nerve Damage	Unilateral leg pain (in gluteal and hamstring), radiating pain down the leg from the low back, pain is worse in leg than back, aching, burning, numbness, or tingling, no stated injury, possible weakness in affected leg, increased pain with sitting	Pedorthic goal is to reduce discomfort of referred pain (vs addressing nerve injury), if neuropathy occurs in the foot, address with protection in mind, refer to PT	The term sciatica describes symptoms vs a diagnosis Pedorthists may not be able to "fix" sciatic, however if the mechanics are causing stress up the chain, we can address this