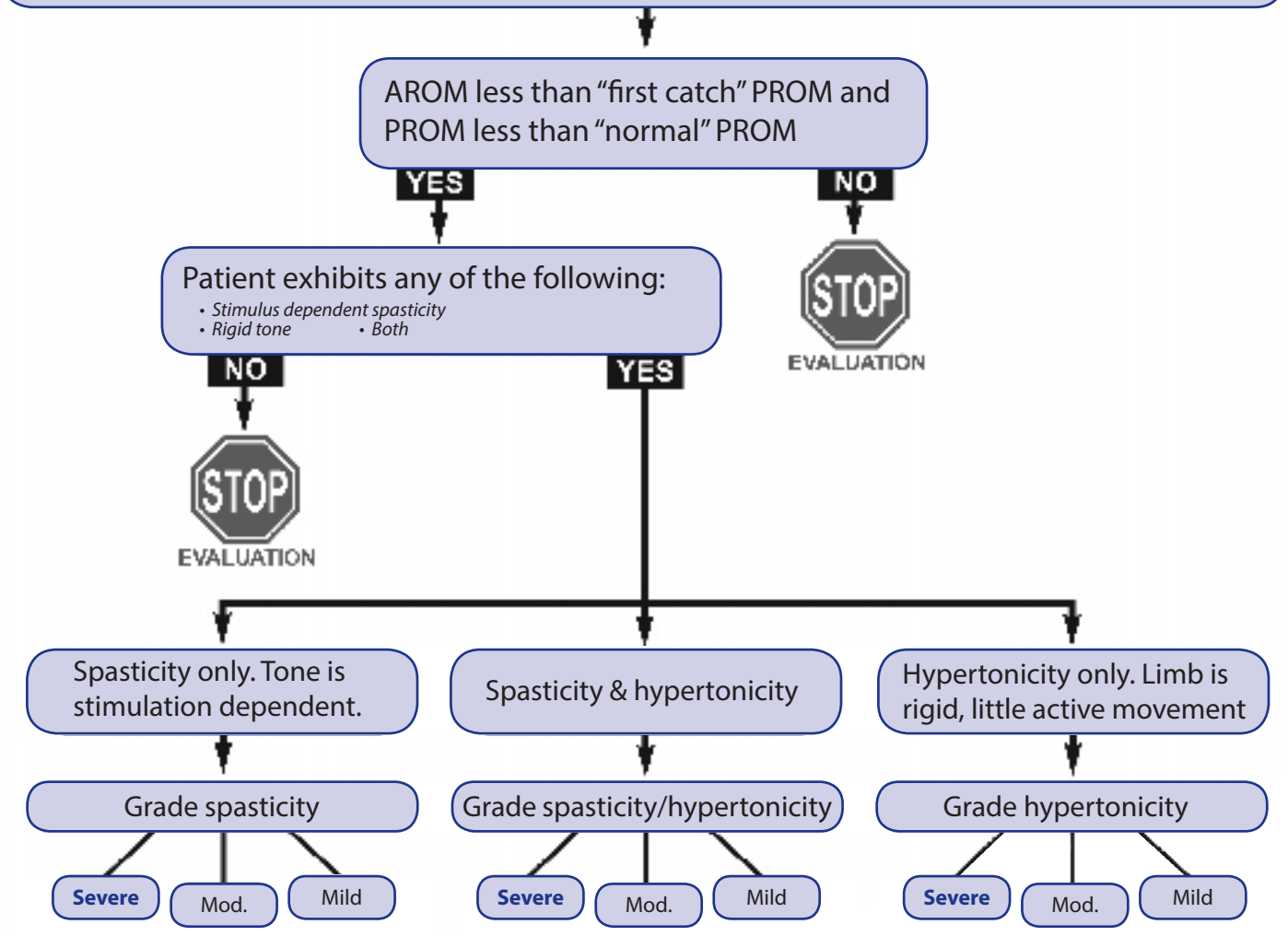
NEUROLOGICAL DYSFUNCTION

1) Patient Evaluation

Continue with each step, unless you come to STOP EVALUATION - indicating that the patient is unlikely to be a bracing candidate

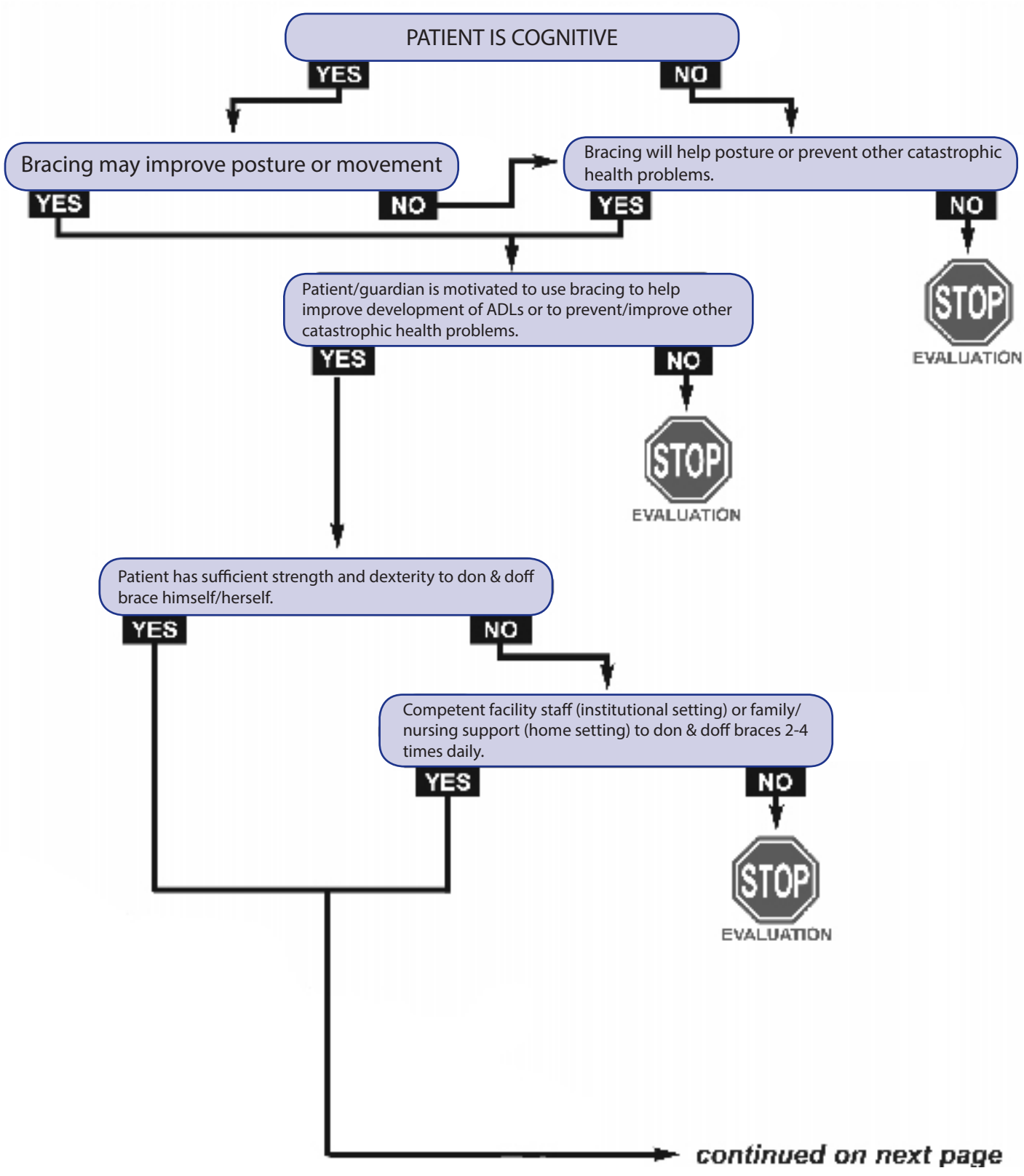
- Determine height, weight, age, primary etiology of CNS lesion(s) and co-morbidities (poor skin integrity, circulation , sensation, heterotopic ossification, osteoporosis, etc.)
- Record topographical involvement (monoplegia, diplegia, triplegia, quadriplegia)
- Record time of onset, including primary etiology and treatments to date. Assess velocity dependent spasticity during movement, rigid hypertonia and hypertonia
- **Measure PROM, "first catch", and after initial stretching with hand pressure to establish baseline values**
- **Check for "clasp-knife" response to sudden movement**
- **Measure bi-lateral, unaffected limb to approximate normal range for that patient**



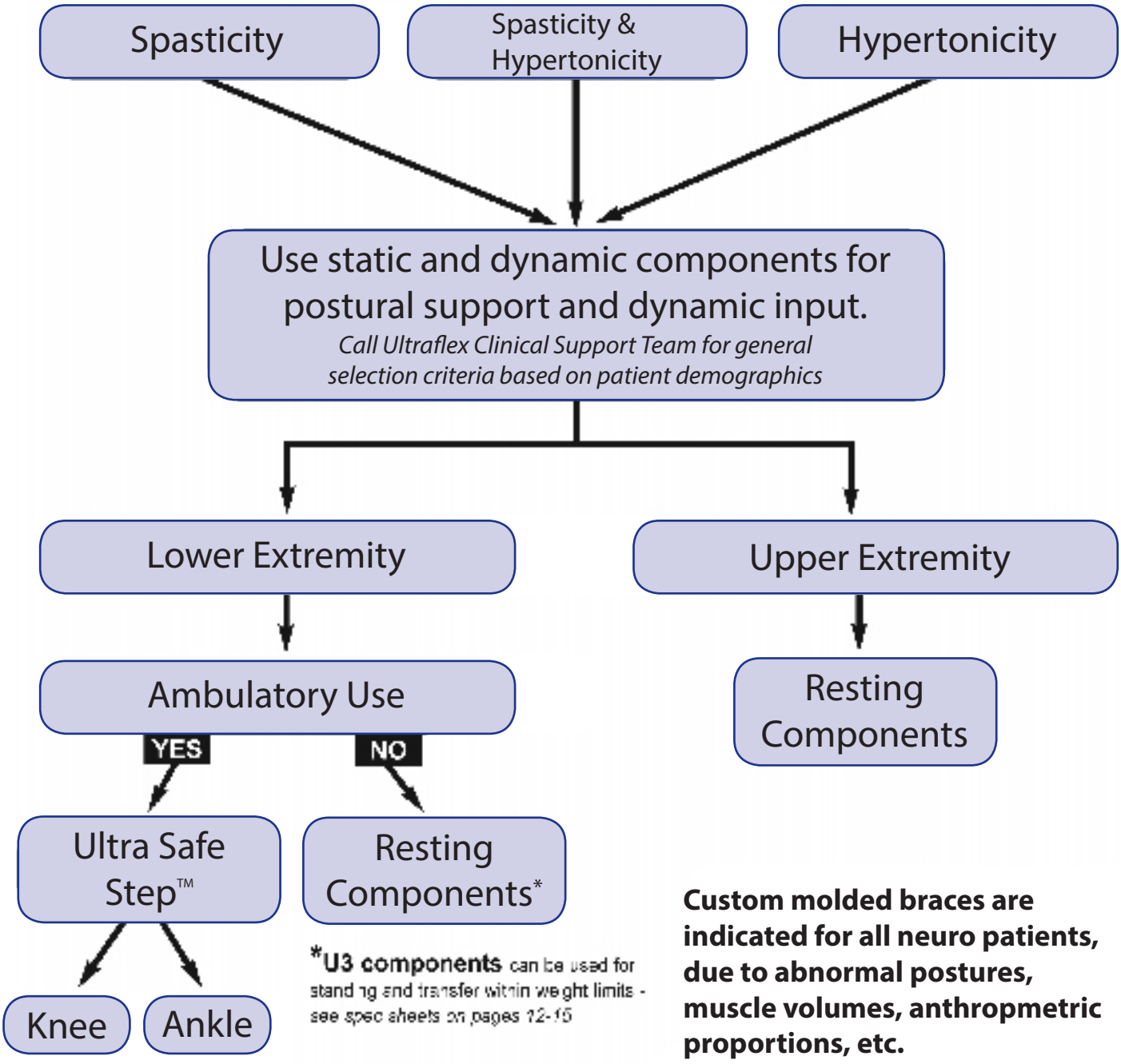
If "severe", refer back to attending physician or therapist to assess other treatments for spasticity reduction (pharmacologic, blocks), then re-consider bracing.

2) Compliance Assessment

Continue with each step, unless you come to STOP EVALUATION - indicating that the patient is unlikely to be a bracing candidate



3) Determine Brace Design



Custom molded braces are indicated for all neuro patients, due to abnormal postures, muscle volumes, anthropmetric proportions, etc.

The use of the brace will dictate its design.

4) Treatment and Use

Therapeutic Bracing For:

Spasticity, Mixed Spasticity & Hypertonicity, Hypertonicity:

At initial fitting, patient/caregiver should demonstrate:

1) How to don/doff the brace
2) How to posture the limb in a gravity neutral position for resting or night bracing
3) If lower extremity and being used to support weight bearing - how to use full lock out and flexion controls

For Spasticity, Mixed Spasticity & Hypertonicity:

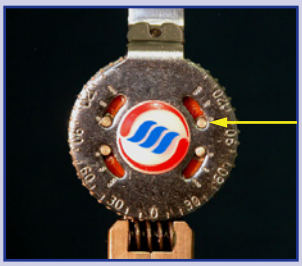
Patient/caregiver should demonstrate:

1) How to don/doff the brace and set static controls to isolate spastic musculature
2) How to perform therapeutic movement patterns with the brace on.

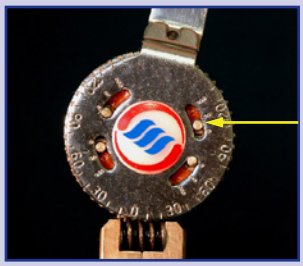
Initial Treatment - 1 to 14 days (using U3 components)

For best results, it is important to PRECONDITION THE JOINT with the orthosis by applying Ultraflex stress therapy gradually. Please utilize the following procedure:

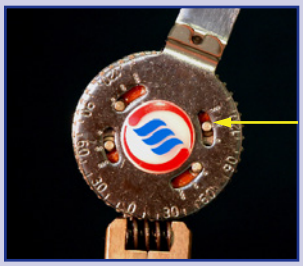
1) At the initial fitting, the patient should wear the orthosis within the limit of PROM (extension or flexion as appropriate) for 25 minutes at tension setting "1/2" (see picture #2) and be monitored to make sure that it fits properly and there is no discomfort. If any pressure (as indicated by redness) to any skin area is noticed, adjust Ultraflex orthosis (flare edges, etc) to insure maximum compliance.
2) 1st day - tension set at "1/2" and wear for 2 hours (see picture #2)
3) 2nd day - tension set at "1/2" and wear for 4 hours
4) 3rd day - tension set at "1/2" and wear for 8 hours
5) Continue tension setting "1/2" for 8 hours/day and assess ROM gains (1-3 degrees is desired) after 1 week. If 8 hours per day cannot be attained for tolerance reasons, back tension to lower setting (see picture #1)
6) If ROM plateaus, progress one setting and repeat steps 2 through 5



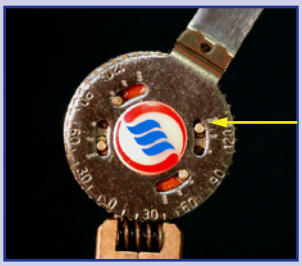
#1 - "0" setting



#2 - "1-2" setting



#3 - "2" setting



#4 - "3" setting

Functional Bracing (using USS knee & ankle components)

At initial fitting, patient/caregiver should demonstrate:

1) How to don/doff the brace
2) How to wear and perform ADLs (e.g. gait, feeding, transfers, etc)

If brace is being used for gait assist or training to prevent unwanted movement, support instability or control alignment, practitioner must set controls and assist until function is optimized.