4-Mallet Technique: Burton Grip
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I. GRIP/HAND POSITION
A. The grip/mallet position is the same in both hands.
B. The terms outside and inside refer to the position of the mallet heads when looking at the hands from the performer's viewpoint.
C. The outside mallets are held between the index and middle fingers.
   1. The shafts rest against the palms. The shafts cross the center of the palms and are held in place by the ring fingers. The ring fingers always remain on the outside mallets.
   2. The fulcrum point for the outside mallet is between the pad of the ring finger and palm in both hands.
   3. The shafts should not extend more than one half inch beyond the base of the palms.
D. Figure I illustrates the position of the outside mallet.
E. The inside mallets cross over the outside mallets; they are furthest from the palm.
   1. The inside mallet shafts are parallel to the base of the fingers in both hands. Figure II illustrates this relationship.
   2. The thumb and index finger form the fulcrum on the inside mallets in both hands. The remaining fingers curl around the mallet shafts.
   3. The shafts should not extend more than three-quarters of an inch beyond the outside edge of the hands.
F. Figure III depicts a palm view of the grip with all fingers in place.

II. CLOSING AND OPENING THE MALLETS
A. There are two distinct positions involved in opening and closing the mallets.
   1. The first position is used for intervals between a unison and sixth or seventh depending upon the size of the vibist's hands and the register in which she/he is playing.
   2. The second position is for intervals larger than a sixth or seventh, again, depending upon the size of the vibist's hands and registral considerations.
B. Closing and opening the mallets in **first position** requires two separate movements: little finger movement and index finger/thumb movement.

C. Closing the mallets in **first position**:
1. To close the mallets the little finger is moved down so the tip gets closer to the base of the palm. Simultaneously, the inside mallet shaft is pushed up with the thumb.
2. As the mallets get closer together, the index finger is gradually straightened as it slides up the shaft. The pad of the index finger is kept in contact with the shaft until it is necessary to completely withdraw it from between the two mallets.
3. Figure IV illustrates the hand position when the mallets are closed.

D. Opening the mallets in **first position**: (this involves the reverse procedure)
1. The index finger is placed between the mallets, then gradually slid down the inside shaft. Simultaneously, the thumb gradually extends outward, always staying in contact with the shaft.
2. Concurrently, the little finger is moved back up so the tip of the finger is closer to the base of the finger.
3. The hand will closely resemble Figure V when the mallets are opened as far as first position allows.

E. The **second position** for opening and closing the mallets is employed when the mallets must spread further apart than is possible in first position.
1. Spreading the mallets beyond the point represented in figure IV requires a dramatic change in the fulcrum on the inside mallet.
2. In second position the thumb crosses over the top of the inside shaft so it can press outward from the inner side of the shaft. The index finger relinquishes contact with the inside mallet.
3. The index finger must then be completely straightened and press outward on the inner side of the outside mallet shaft.
4. Second position requires a great deal of stretching on the part of the thumb and index finger.
5. The ring finger must hold the mallets securely in place at all times, regardless of the amount of pressure against it. It is imperative that the shafts remain crossed in the hand at all times. If the shafts do not remain crossed the vibist will lose control of the mallets.
6. Figure VI illustrates the hand in a fully opened second position.
F. To close the mallets in second position, lessen the pressure of both the thumb and index finger while simultaneously pulling down with the little finger.
   1. Convert back to first position as soon as the mallets are close enough together to reestablish the fulcrum on the inside mallet as shown in figure III.
   2. The change in the positions of the thumb and index finger between first and second positions must be executed quickly.

III. STROKES
   A. There are three basic stroke movements used in the Burton grip.
      1. Two of these movements require the inside and outside mallets to be independent of each other.
      2. The third movement involves the two mallets working together.
      3. In all cases there are many variations of each stroke movement. These variations arise from musical demands, physical positioning and/or technical capabilities.
      4. The mallets operate the same in both hands.
   B. Inside mallet stroke:
      1. Full stroke: keep the wrist flat and straight.
      2. A full stroke is created by rotating the forearm and hand in a smooth, unbroken motion from a thumb-up position to a palm-down position and back to a thumb-up position.
      3. When this is done, the inside mallet will travel in an arc. The outside mallet moves very little during this process, turning only slightly with the movement of the wrist.
      4. This full, arcing stroke is flexible and easy to control when the thumb and index finger maintain the proper fulcrum.
      5. Figure VII illustrates the thumb-up position and Figure VIII illustrates the palm-down position; the movement from position a to b and back to a constitutes the completion of a full arc stroke with the inside mallet.
   C. Outside mallet stroke 1:
      1. Strokes made by the outside mallet are influenced by the position of the inside mallet.
      2. When the inside mallet is in playing position, that is, its fulcrum is intact, the outside mallet stroke must combine two separate movements: (1) the wrist must bend up and down while, (2) rotating in the direction of the little finger. The inside mallet will turn slightly but should not flop up and down.
      3. These two wrist movements combined give the outside mallet a great deal of power.
      4. This is the type of outside mallet stroke used when the inside mallet is also being used frequently and kept in playing position.
   D. Outside mallet stroke 2:
      1. When using the outside mallet alone for any extended length of time it is advantageous to assume resting position.
      2. In resting position the inside mallet fulcrum is disengaged, causing the mallet to hang freely. This allows the outside mallet to be manipulated without the burden generated by the extraneous weight and movement of the inside mallet.
      3. In resting position the mallets should be perpendicular to each other.
      4. Figure IX illustrates resting position.
      5. When in resting position, outside mallet movement is initiated by bending the wrist straight up and down. The outside mallet has the potential to be extremely powerful and accurate in this position.
   E. Double stop stroke: the inside and outside mallets in the same hand strike the instrument simultaneously.
      1. The wrist bends straight up and down without any forearm rotation.
      2. Both mallets must strike the instrument at precisely the same moment.
      3. The angle of the hand to the forearm will change depending upon the notes to be struck.
F. In all of the aforementioned stroke types the movement between, or simultaneous playing of, the natural and accidental bars forces an additional movement.
   1. As was true of two-mallet playing, the player leads with the elbows to facilitate this activity.
   2. The elbows are positioned halfway between the target notes by swinging the arms out from the shoulders. The arms are not straightened at the elbows.
   3. Minimizing lateral arm movement will augment accuracy and flexibility.

IV. STANCE
   A. Center yourself behind the instrument.
   B. Vibraphone:
      1. The right foot operates the pedal. The heel must remain on the floor at all times.
      2. The majority of your body weight is supported by the left foot.
      3. When playing both hands in the upper register of the instrument cross your left leg behind the right leg so as to keep your weight stable and centered and your mallets in good playing position.
      4. When playing both hands in the low register step to the left with your left foot, leaning your upper body. Again, keep your weight stable and centered.
   C. Marimba:
      1. Side step in the appropriate direction for playing in the extreme upper or lower registers of the instrument. Do not cross your feet. Use sliding side steps.
      2. Keep your weight centered and focused while moving from side to side.
      3. When playing one hand in each extreme register you may need to bend your knees to keep your arms and mallets at a good playing angle.
      4. When much playing of accidentals is required you may need to lean forward to promote good arm and mallet positioning and to maintain technical flexibility.