Assessment and Treatment of self injury
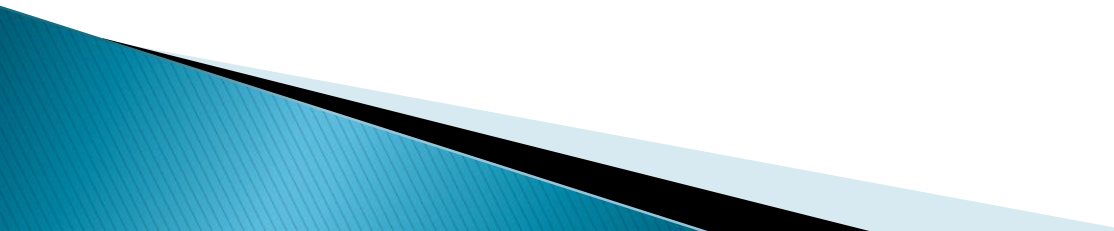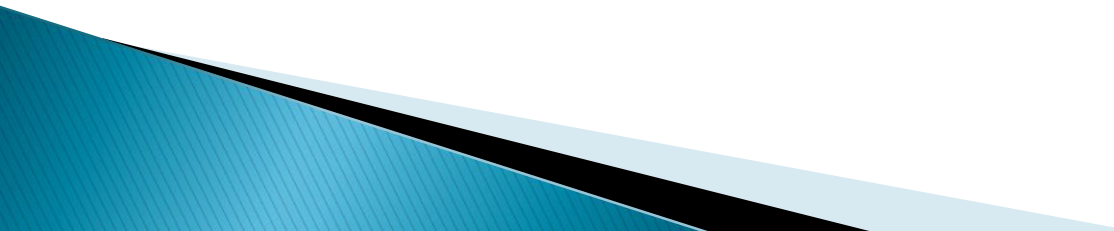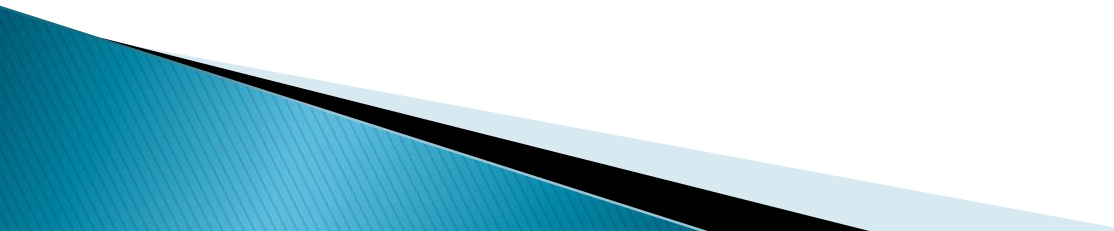
By: Adeela Shah,M.ED,LBA,BCBA

Introduction

- Individuals with ASD are at higher risk for developing SIB as compared to others with language, speech, visual, auditory impairment and other neuro-developmental disabilities.
- Self- injurious behavior, (SIB) is affecting approximately 50% of individuals with Autism Spectrum Disorder.
- SIB is a class of behaviors

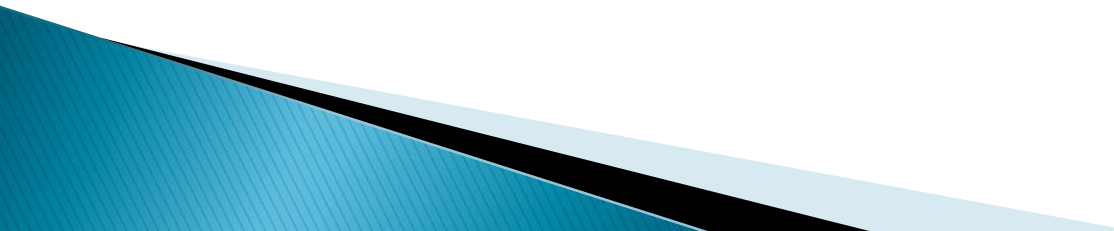# Common topographies

- Head banging
- Biting
- Pinching
- Skin picking
- Eye pressing
- Head to knee hitting,
- Scratching
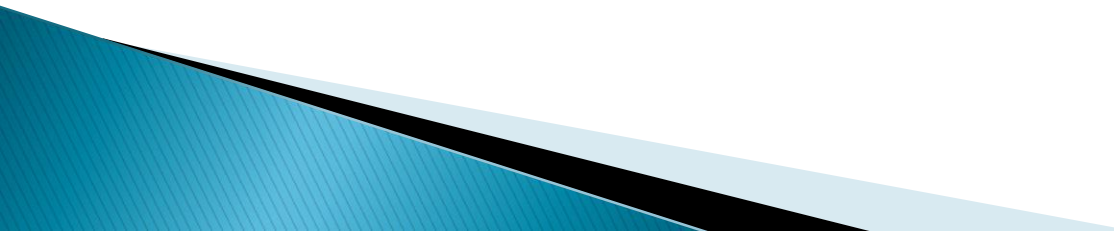- Hand mouthing
- Hair pulling, and many others.

Stereotyped SIB

▸ For individuals with autism, SIB is classified as "stereotyped SIB"
▸ Higher frequency
▸ Various intensity
▸ Episodic
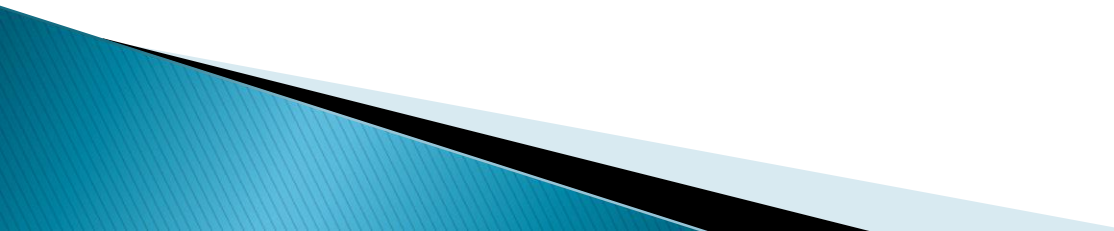
Prevalence of SIB

- The increased prevalence of SIB has been associated with impairment in the following areas:
- Adaptive functioning
- Communication skills
- Socialization skills
- And other medical reasons

Health Risks

- Recurrent infections
- Physical malformations
- Fractures
- Lacerations
- Detached retinas/blindness
- And in some cases even death
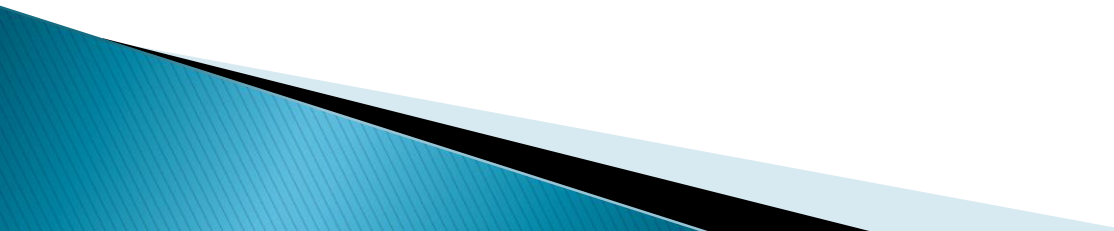
Behavioral Function of SIB

- Escape or avoidance
- Attention
- Automatic
- Access
- Communicative function
- Multiple functions
- Medical condition

Functional Analysis

▸ Determine the primary function of SIB through functional analysis before implementing interventions

Assessment and Treatment of SIB

1. Preference assessment
2. Competing stimulus assessment
3. Descriptive analysis
4. Non-contingent reinforcement schedule
5. Response blocking and redirecting
6. Differential reinforcement of other behavior and Self-Monitoring procedure
7. Antecedent and Consequence events
8. Extinction with non-contingent reinforcement (NCR

Assessment and Treatment of SIB

- **Preference assessment**

Identifies stimuli that are likely to function as reinforcers.

Identifies the value of a stimuli as high or low.

Variety of procedures used to determine preference.

Helps determine the conditions under which those preference values change when task demands, deprivation states, and or schedule of reinforcement change.

- **Competing stimulus assessment**

CSA is used to identify stimuli that are associated with reduced levels of problem behavior, presumably as a function of reinforcer competition.

Stimuli are made available upon SIB along with response blocking

CSA can reduce problem behavior maintained by automatic reinforcement.

CSA needs to be used in conjunction with other treatments such as preference assessment, response blocking.

Assessment and Treatment of SIB

❑ **Descriptive analysis**

Direct observation of problem behavior under natural conditions. Events are not arranged in systematic manner.

Provides data on the occurrence of the behavior within the context of natural environment in which it occurs and also the environmental events that surrounds it. E.g.: ABC data recording.

❑ **Non-contingent reinforcement schedule**

NCR is the use of positive reinforcement that is not related to the occurrence of the target behavior.

Reinforcement is available freely, not earned or contingent on a correct response

NCR is used at fixed time or variable time to increase replacement behaviors and decrease problem behaviors.

High rates of reinforcement delivered = low rates of problem behavior.

Assessment and Treatment of SIB

❑ **Response blocking and redirecting**

Physically preventing the maladaptive behavior from occurring using hands, helmet, goggles, and body to block the behavior and redirecting to task or alternative behavior.

❑ **Differential reinforcement of other behavior and Self-Monitoring procedure**

Reinforcement is contingent on the absence(omission) of the challenging behavior.

Self-monitoring is a procedure in which a person observes his/her own behavior systematically and records occurrences and non-occurrences of behavior

Assessment and Treatment of SIB

- **Antecedent and Consequence events**

Antecedent refers to the environment or preceding events of the targeted behavior.

Essentially anything that could trigger the behavior.

Consequence is the outcome of the behavior.

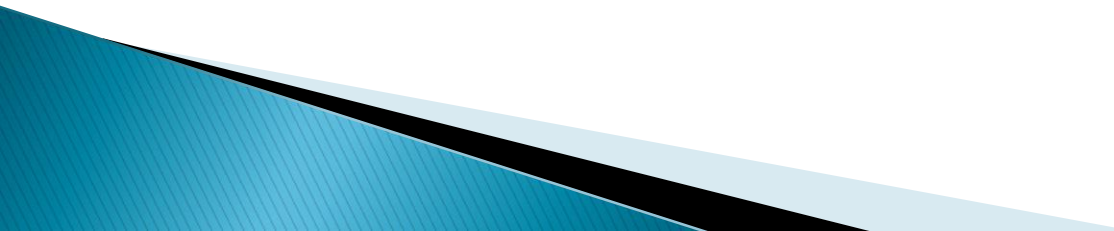Consequence is the important element , as it can prolong or end the behavior.

- **Extinction with non-contingent reinforcement (NCR)**

Withhold all sources of reinforcement contingent on a behavior of concern and enrich the environment with reinforcers for acceptable behavior.
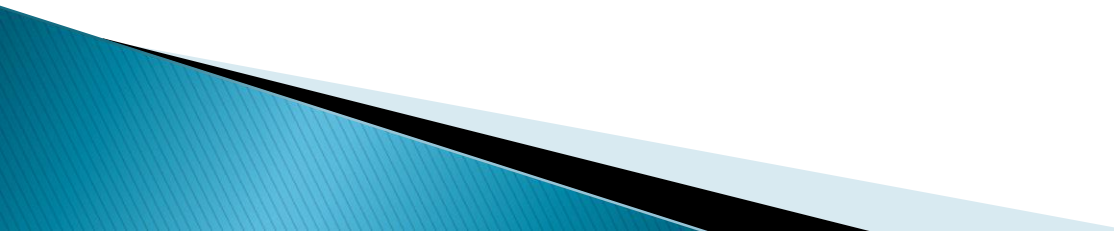
NCR diminishes behavior by changing motivating operations and EXT diminishes behavior by changing consequence stimuli.

A treatment package that include NCR and EXT may reduce extinction induced response bursts.
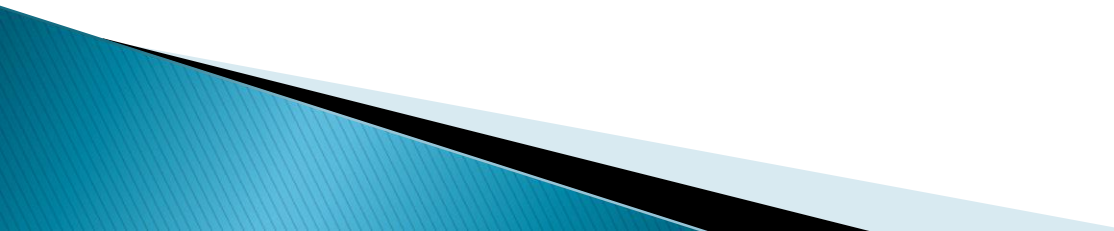
Automatic reinforcement

- 25% of individuals engage in SIB that is maintained by automatic reinforcement.
- SIB that occur under alone condition (self-stimulation) of a functional analysis has been described as being maintained by automatic reinforcement.
- SIB maintained by automatic reinforcement is often difficult to treat.
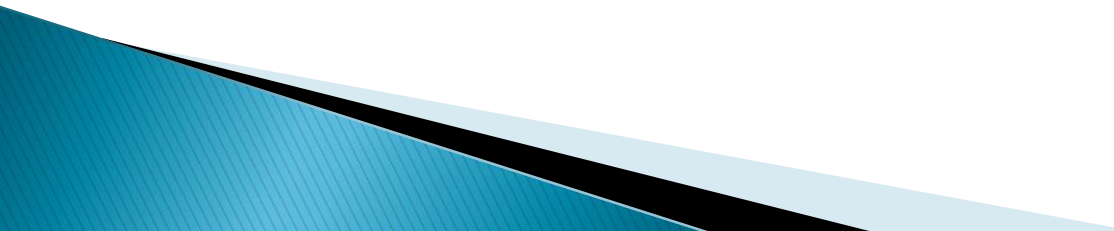- identifying alternative stimuli to replace SIB maintained by automatic reinforcement

Known Research on automatic reinforcement

- Competing stimulus assessment (sensory reinforcement)
- Response blocking or response interruption procedures
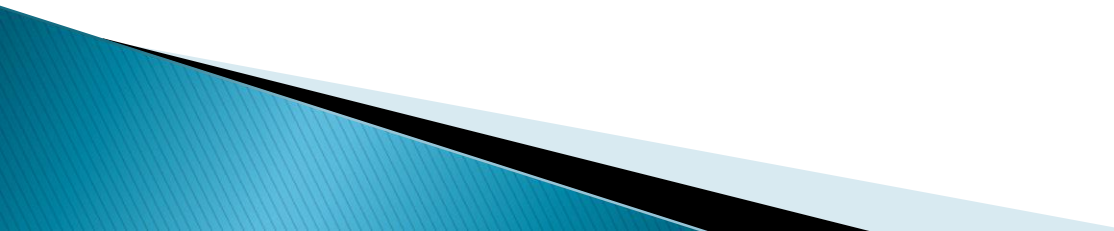- Non-contingent reinforcement procedure

Social Reinforcement

- SIB that appear to be mediated by the social reinforcers are easily treated as compare to SIB that are maintained by automatic reinforcement.
- SIB maintained by social reinforcement includes
  - Attention
  - Escape or avoidance of task
  - Access to a tangible
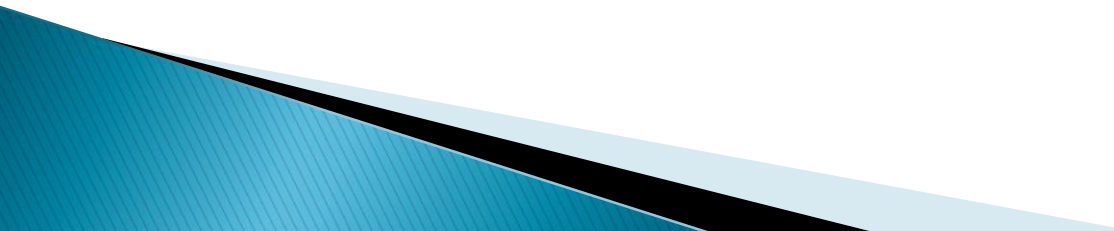
Known Research on social reinforcement

▸ Reinforcement system:

–Combined contingencies of positive and negative reinforcement procedures

–Dense and thin schedules of non-contingent reinforcement

–Differential reinforcement of other behavior (DRO)

–DRO + Self-Monitoring procedure

Future Research

- The long term effects of treatments to reduced SIB maintained by automatic reinforcement.
- The effects of response blocking procedure alone.
- The effectiveness of Self-Monitored DRO compared to other interventions .

Incorporation into Applied Behavior Analysis

- Functional behavior assessment
- Behavioral interventions for SIB should be used in combination to develop a comprehensive treatment plan
- Monitor effectiveness of intervention
- Generalization of the intervention into natural environment

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